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Sir Ronald Ross (1857-1932): The Literary Self-Fashioning of a Colonial Medico-Scientific Researcher

Charlotte Elizabeth Orr



Credit: Sir Ronald Ross standing next to a bust of himself, and Janko Bragovitch (sculptor). Photograph by Grove, Son and Boulton, 1926. Credit: Wellcome Collection. Attribution 4.0 International (CC BY 4.0)

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ABSTRACT

This thesis interrogates the self-fashioning of Sir Ronald Ross, K.C.B., K.C.M.G., M.D., D.Sc., L.L.D., F.R.C.S., F.R.S., I.M.S. (1857-1932), parasitologist, surgeon-apothecary, writer, and polymath. While recent Ross scholarship focuses on materials from the Ross Collection at the London School of Hygiene and Tropical Medicine (LSHTM), I examine the underexplored Ross Collection at the Royal College of Physicians and Surgeons of Glasgow (RCPSG), which contains most of the archival material relating to his literary career. Consequently, this work provides the first sustained critique of Ross's published literary works, examining his *Memoirs: with a full account of the great malaria problem and its solution* (1923), published novels, poetry collections, and his editorship of and contributions to the popular science magazine, *Science Progress*.

Each thesis chapter focuses on a different form of writing penned by Ross and published during his lifetime. Chapter One concentrates on Ross's self-fashioning as neglected suffering scientist in *Memoirs*. Ross complicates what George Levine coined the 'dying-to-know' narrative, infusing this accepted narrative with a 'telling of the self' to create a distinct scientific autobiography.¹ Chapter Two examines the didacticism of Ross's three published romances, exploring the change in Ross's branding before and after his celebrated malaria discovery. I argue that Ross's first two novels, *The Child of Ocean* (1889) and *The Spirit of Storm* (1896), dramatise the importance of medical and scientific knowledge and the relevance of that knowledge to British health and imperialism, while Ross's third novel, *The Revels of Orsera* (1920), works as an allegory regarding the neglected hero. Chapter Three uses Jessica Howell's claim that Ross creates a 'heroic narrative' and 'coherent arc' in his poem 'In Exile' to examine whether this assertion can be made about Ross's entire poetry corpus, uncovering his self-fashioning as refined physician-poet and public authority.² Chapter Four focuses on Ross's self-fashioning as a potential post-war technocratic leader in *Science Progress*. The chapter interrogates Ross's development of a public ideology for scientists during the 1916 Neglect-of-Science debate, a debate in 'which politicians, scientists, and other social commentators discussed whether Britain's ill fortunes in the war were a result of neglecting scientific research.'³ The thesis

¹ George Levine, *Dying to Know: Scientific Epistemology and Narrative in Victorian England* (Chicago: University of Chicago Press, 2010), p. 2; Rita Charon, *Narrative Medicine: Honouring the Stories of Illness* (Oxford: Oxford University Press, 2008), p. 73.

² Jessica Howell, *Malaria and Victorian Fictions of Empire* (Cambridge: Cambridge University Press, 2019), p. 148.

³ Melinda Baldwin, *Making "Nature": The History of a Scientific Journal* (Chicago: University of Chicago Press, 2015), p. 95.

conclusion briefly explores Ross's recent cultural memorialisation and his refashioning for modern-day audiences in Amitav Ghosh's *The Calcutta Chromosome* (1995).

Ultimately, through examining Ross's little-known literary work, this thesis offers insights into the self-fashioning of the colonial surgeon and the celebrity medico-scientific researcher; the narrativisation of science in *fin de siècle* scientific life writing; Ross's contribution to the romance genre during the romance revival; the use of poetry as a tool to highlight and advance the cultural authority of science, and the key role of popular science magazine *Science Progress* during the Neglect-of-Science debate.

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ABBREVIATIONS

IMS: Indian Medical Service

LSHTM: London School of Hygiene and Tropical Medicine

LSTM: Liverpool School of Hygiene and Tropical Medicine

RCPSG: Royal College of Physicians and Surgeons of Glasgow

NLS: National Library of Scotland

INTRODUCTION

[I]n the course of what I say you will form some picture of one whom Carlyle would have called a “Great Man”, and “The Hero as Scientist”.¹

The above comment was made by parasitologist Sir Malcolm Watson (1873-1955) in May 1948, during the Ross Commemoration Meeting at the Fourth International Congress on Tropical Medicine and Malaria. Watson was the ‘greatest disciple’ of Colonel Sir Ronald Ross, K.C.B., K.C.M.G., M.D., D.Sc., L.L.D., F.R.C.S., F.R.S., I.M.S. (1857-1932), parasitologist, surgeon-apothecary, musician, mathematician and writer.² By conferring the accolade of Carlylean ‘Great Man’ on Ross, Watson posthumously fashions him as the embodiment of the successful scientific naturalist. Frank M. Turner and, more recently, Heather Ellis chart the influence of Thomas Carlyle (1795-1881) on a particular set of mid- and late-Victorian scientists, whom Thomas Henry Huxley (1825-1895) termed the ‘scientific naturalists’.³ The professional identity of the scientific naturalist is explained by Bernard Lightman and Gowan Dawson as ‘Huxley’s putative neologism’, which Turner then made use of as a

historiographic category denoting the secular creeds of the generation of intellectuals who, in the wake of Charles Darwin’s *On the Origin of Species* (1859), wrested cultural authority from the old Anglican establishment and installed themselves as a new professional scientific elite.⁴

Ellis explains that Carlyle’s conception of heroism chimed with these scientific naturalists as they rejected the professional identity of the ‘gentleman-scientist’: Victorian scientific naturalists shifted from ‘an emphasis on birth, wealth and inherited status towards

¹ Malcolm Watson, ‘Ronald Ross Commemorative Meeting’, *Proceedings of the Fourth International Congresses on Tropical Medicine and Malaria*, 1 (May 1948), 61-75 (p. 61).

² George MacDonald ‘Opening Speech by the Chairman, Prof. George MacDonald, Director of the Ross Institute of Tropical Hygiene, London’, *Proceedings of the Fourth International Congresses on Tropical Medicine and Malaria*, 1 (May 1948), 55-57 (p. 57).

³ Heather Ellis, *Masculinity and Science in Britain, 1831-1918* (London: Palgrave Macmillan, 2017), p. 78.

⁴ Bernard Lightman and Gowan Dawson, *Victorian Scientific Naturalism: Community, Identity, Continuity* (Chicago: Chicago University Press, 2014), p. 1.

individual merit, moral worth and self-discipline'.⁵ The 'ideal hero' for these scientific naturalists then became Carlyle's conception of 'the natural man': 'gifted but undeveloped, rugged, abrupt, unpolished, with an uncorrupted, instinctive commitment towards the morally true'.⁶ Further, Carlyle believed that men 'whose authority and legitimacy stemmed from talent, veracity, and knowledge of facts', which is how these scientific naturalists identified, would be best suited to 'address the problems of Britain's social and physical well-being'.⁷ Thus, the first generation of scientific naturalists hoped to utilise their improving professional status to assert their superiority in all aspects of British life.

Ellis examines the shift from the gentleman-scientist to the masculine scientific naturalist through the lens of two groups: The X-Club, an exclusive dining club for prominent scientists like Huxley, and the Red Lions, scientists who objected to the elitism of their profession. Both groups 'stressed the need to do away with aristocratic patronage and extravagant entertainment, cultivating instead the image of the hard-working, self-disciplined, morally earnest man of science'.⁸ Turner notes that for the first generation of scientific naturalists, figures like Huxley, John Tyndall (1823-1893), Francis Galton (1822-1911), and Herbert Spencer (1820-1903), the 'multiplicity of their interests and contacts permitted them to carry their message of the benefits of scientific endeavour to audiences ranging from skilled mechanics to members of the aristocracy'.⁹ He notes their use of various 'intellectual and educational enterprises' to promote the ideals of scientific naturalism.¹⁰ Melissa Baldwin briefly examines the effects of this movement on the following generation of scientists, particularly in relation to the success of the periodical *Nature*. She discusses scientists born after 1840, those who 'regarded the X Club

⁵ Ellis, p. 125.

⁶ Norma Clarke, 'Strenuous Idleness: Thomas Carlyle and the Man of Letters as Hero', *Manful Assertions: Masculinities in Britain Since 1800* ed. by Michael Roper and John Tosh (London: Routledge, 1991), 25-43 (p. 38).

⁷ Ellis, p. 131.

⁸ *Ibid.*, p. 136.

⁹ Frank M. Turner, 'Victorian Scientific Naturalism and Thomas Carlyle', *Victorian Studies*, 18 (3) (March 1975), 356-375 (p. 325).

¹⁰ *Ibid.*, p. 326.

generation as their mentors’, to establish whether they might also be defined as scientific naturalists.¹¹ Baldwin concludes that ‘scientific naturalism [...] still effectively encapsulates the values and assumptions of many mid- and late Victorian men of science’.¹² Scientific naturalism then, ‘had a second generation who, [...] both venerated and simultaneously critiqued their celebrated forebears, maintaining a continuity with certain aspects of their agenda into the early twentieth century, while transmuting others’.¹³ This thesis examines Ross’s position in this later generation of scientific naturalists, exploring how he utilised his published literary output to develop his public persona, enabling his posthumous reputation as ‘The Hero as Scientist’.¹⁴

Ross was not only a scientist: he was in fact trained in medicine at St Bartholomew’s Hospital Medical College and subsequently employed as an Indian Medical Service (IMS) surgeon-apothecary before and during his pioneering malaria research. He graduated from St Bartholomew’s, passing the examination set by the Royal College of Surgeons of England in 1879 and the licentiate of the Society of Apothecaries in 1881, before taking up employment with the IMS. Christopher Lawrence and Michael Brown chart the rise of Victorian surgeons and explorers, noting the heroic imagery utilised to valorise their profession: ‘although they were heroic, muscular figures going about their everyday business surrounded by dirt, blood, disease, and death, [they] were also gentlemen or at least aspired to be.’¹⁵ As with scientific naturalists, Brown notes the ‘veritable obsession’ with Carlylean heroism within the medical profession, which ‘invoked and elaborated visions of masculinity framed by war, heroism, and self-

¹¹ Melissa Baldwin, ‘The Successors to the X Club? Late Victorian Naturalists and Nature, 1869–1900’ in *Victorian Scientific Naturalism: Community, Identity, Continuity* ed. by Bernard Lightman and Gowan Dawson (Chicago: Chicago University Press, 2014), 288-302 (p. 289).

¹² Lightman and Dawson, p. 20.

¹³ *Ibid.*, p. 21.

¹⁴ Watson, p. 61.

¹⁵ Christopher Lawrence and Michael Brown, ‘Quintessentially Modern Heroes: Surgeons, Explorers, and Empire, c. 1840-1914’, *Journal of Social History*, 50 (1) (2016), 148-178 (p. 155).

sacrifice'.¹⁶ Brown briefly notes that governmental support of heroism in the military was often used as a counterpoint to highlight neglect of public health workers who 'sought to represent their work [...] as a form of state service equivalent in importance to national defence or imperial conquest'.¹⁷ He identifies the unease with which 'explicit invocations of militarism' are juxtaposed with implicitly feminine 'articulations of religious martyrdom' in contemporaneous medical rhetoric: 'practitioners [were] frequently oscillating between religious and warlike imagery and between feminised and masculinised visions of medicine'.¹⁸ Expanding on these examinations of medical masculinity in Victorian Britain, this thesis also explores the 'kinds of cultural work that such discourses were being made to perform'.¹⁹ Namely, this thesis will interrogate how Ross makes use of, challenges, and alters medical rhetoric to develop his self-fashioning through his neglected literary corpus and his broader 'cultural work'.

This thesis makes use of Renaissance scholar Stephen Greenblatt's definition of 'self-fashioning' to identify the way in which Ross presented his public persona over time using different modes of literature. Self-fashioning is then defined in this thesis as Ross's method of developing 'a distinctive personality, a characteristic address to the world, a consistent mode of perceiving and behaving'.²⁰ In Frederick Luciani's examination of the self-fashioning of Sor Juana Inés de la Cruz (1648-1695), he pinpoints the particular use of this term as a 'preferred alternative to terms like "self-creation," "self-construction," or "self-invention," none of which carry the same sense of shaping of the self'.²¹ This term then is useful as it highlights how, through different literary modes: Ross is self-consciously 'shaping' a public persona which develops and alters throughout his life.

¹⁶ Michael Brown, "'Like a Devoted Army': Medicine, Heroic Masculinity, and the Military Paradigm in Victorian Britain', *Journal of British Studies*, 49 (3) (July 2010), 592-622 (p. 594).

¹⁷ *Ibid.*, p. 621.

¹⁸ *Ibid.*, p. 597; *Ibid.*, p. 594; *Ibid.*, p. 597.

¹⁹ *Ibid.*, p. 595.

²⁰ Stephen Greenblatt, *Renaissance Self-Fashioning: From More to Shakespeare* (Chicago: University of Chicago Press, 1980), p. 2.

²¹ Frederick Luciani, *Literary Self-fashioning in Sor Juana Inés de la Cruz* (Lewisburg: Bucknell University Press, 2004), p. 16.

Historians of science and literary scholars have come to find self-fashioning a productive lens through which to examine the multifarious and dynamic professional identities found in Victorian science.²² Furthermore, in examining Ross's self-fashioning throughout his literary output, this thesis employs the term 'medico-scientific researcher'. By using this hybrid professional identity for Ross, this thesis considers the ways in which his training at St Bartholomew's and his work as an IMS surgeon-apothecary, alongside his malaria research, and later university and governmental posts, all contributed to the development of his distinct public persona which utilises, challenges, and reimagines rhetoric found in the evolving professional identities of the scientist and the surgeon.

Biography and Biographers

Sir Ronald Ross is still known to most of those who have any sense at all of his importance, in sections – as a medical scientist and administrator and editor, as a mathematician [...], as a poet and satirist, and (by few indeed) as a writer of prose epics. Very few grasp the wholeness of his genius.²³

So claims journalist Rodolphe Louis M  groz (1891-1968) in his self-professed hagiography of Ross. Ross was born at the Himalayan hill station of Almora, India, the oldest child of General Sir Campbell Clave Grant Ross (1824-1892), a captain in the 66th regiment of Gurkhas, and Matilda Charlotte Ross (*d.*1906). William F. Bynum explains that

²² For examples of historians of science and literary scholars engaging with scientific self-fashioning see Mario Biagioli, *Galileo, Courtier: The Practice of Science in the Culture of Absolutism* (Chicago: Chicago University Press, 1993); Ruth Barton 'Men of Science: Language, Identity and Professionalisation in the mid-Victorian Scientific Community', *History of Science*, 41 (1) (2003), pp. 73-119; Charlotte Sleigh 'Writing the Scientific Self: Samuel Butler and Charles Hay Fort', *Journal of Literature and Science*, 8 (2015), pp. 17-35; David Stack, 'Charles Darwin and the Scientific Mind', *British Journal for the History of Science*, 52 (1) (2019), pp. 85-115.

²³ Rodolphe Louis M  groz, *Ronald Ross: Discoverer and Creator* (London: George Allen and Unwin Ltd., 1931), p. 20.

[t]he Ross family was Scottish [...], but 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, so the Indian connections were long-standing.²⁴

At seven years old Ross was sent to live with his uncle, a retired physician, on the Isle of Wight. While there the young Ross enjoyed reading 'Shakespeare, Massinger, Chapman, and Marlow (sic) [...] *Don Quixote*, *Robinson Crusoe*, Pope's *Homer*, Milton, and Hume's *Essays*.'²⁵ After finishing school, and some study in Southampton, Ross wanted to become an artist or a member of the Army or Navy, but his father refused. Ross was told that he was to become a physician with the IMS, and was forced to attend St Bartholomew's for training.²⁶ While he admired the medical staff, Ross is described by Mégroz as 'almost as detached a student as the youthful Keats, intended for an apothecary, who watched fairies in the sunbeams during lectures'.²⁷ At the end of his time at St Bartholomew's he failed the apothecary licentiate exam and was unable to join the IMS. Instead, he found work on the *Alsatia* as a ship's surgeon.²⁸

After five sailings with the *Alsatia*, Ross returned to London and passed both his apothecary and IMS exams. In September of 1881, Ross left England for Madras. On taking up his role, 'his medical duties being light, he fished and played golf and tennis. More significantly, he spent his leisure teaching himself mathematics, and in a systematic study of European literature'.²⁹ While Ross had clearly been balancing medical and literary pursuits before this time, including penning two unfinished novels, *The Major* (begun in 1878) and *The Emigrants* (begun in 1882), it was while working as an IMS surgeon-apothecary in India that he conducted his Nobel-prize winning malaria research and wrote

²⁴ W. F. Bynum, 'Sir Ronald Ross (1857-1932)', Oxford Dictionary of National Biography, (Oxford University Press, 2004) URL: <http://www.oxforddnb.com/view/article/35839> [Accessed: 10 January 2017].

²⁵ Ronald Ross, *Memoirs: with a full account of the great malaria problem and its solution* (London: John Murray, 1923), pp. 21-22.

²⁶ *Ibid.*, p. 29.

²⁷ *Ibid.*, p. 35., Mégroz, p. 35.

²⁸ Ross, *Memoirs*, pp. 38-39.

²⁹ Mégroz, p. 47.

the majority of his poetry (a total of eight published collections) and novels (three of which were published).

Mégroz's biography splits Ross's published literary works into two sections: 'Biographical and Scientific' and 'Literary Work'. Mégroz intersperses Ross's poetry, explored in Chapter Three of this thesis, throughout the 'Biographical and Scientific' chapters, placing each one within the context of Ross's life. The dispersal of Ross's poetry throughout chapters on his scientific work implies that his poetry cannot be separated from his science. In Mégroz's section on 'Literary Work', he dedicates a chapter to each genre that Ross utilised for both published and unpublished works: 'Satire', 'Prose Criticism', 'Lyrics and Gnostic', 'The Literary Dramatist', 'Dramettas', 'The Novelist: *The Revels of Orsera*', 'The Novelist: *The Child of Ocean*', 'The Novelist: *The Spirit of Storm*', and 'Descriptive and Sententious Prose'. Ross's published novels, examined in Chapter Two of this thesis, are given little literary critique in the biography. Mégroz emphasises Ross's skill as 'a descriptive writer', 'which makes the contests of the assembled gallants at the tourney [in Ross's novel *The Revels of Orsera* (1920)] more exciting than anything in [Sir Walter] Scott's similar stories'.³⁰ On *The Child of Ocean* (1889), Mégroz similarly comments on Ross's 'masterly painting of the natural scenery'.³¹ When discussing Ross's novel, *The Spirit of Storm* (1896), the biographer comments on 'the distinguishing quality of Ross's most effective passages of description [...] in the free use of the pathetic fallacy'.³² As previously mentioned, Mégroz's text is a hagiography. A more dispassionate account of Ross's life is given in the later biography, *Ronald Ross: Malariologist and Polymath* (1997), penned by retired LSHTM entomology lecturer Dr Edwin R. Nye (1926-2017) and then-Assistant Librarian at the LSHTM, Mary E. Gibson.

³⁰ Ibid., p. 195.

³¹ Ibid., p. 210.

³² Ibid., pp. 244-245.

Gibson and Nye's biography restricts Ross's literary work to one chapter. The chapter primarily focuses on issues with the publication of Ross's literary texts and the derivative nature of his writing. The authors reflect Mégroz's comments on Ross's depictions of nature, noting that 'all three of Ross's novels are strong on description and weak on characterisation'.³³ There is little literary criticism, except three paragraphs on 'weak characterisation' and 'poor continuity' in Ross's published novels.³⁴ This later biography does note Ross's editorship and contributions to the magazine *Science Progress* (explored in Chapter Four of this thesis) which Mégroz neglects to discuss. In their four-page section on *Science Progress* Gibson and Nye explain that, under Ross's editorship, the magazine became 'livelier' as he 'introduced short articles and essays and expanded the book reviews coverage'.³⁵ They also highlight notable contributors to the magazine, such as palaeobotanist and family planning pioneer Marie Stopes (1880-1958), evolutionary biologist and grandson of Huxley, Julian Huxley (1887-1975), and physician and physiologist John Scott Haldane (1860-1936).³⁶ Gibson and Nye also identify Ross as using the pseudonym O. A. Craggs intermittently throughout his editorship for the magazine.³⁷ Both Mégroz's biography and Gibson and Nye's biography then provide basic biographical and bibliographical information on Ross's many 'sections'.

Eli Chernin, late Professor of Tropical Public Health at Harvard University, also wrote about Ross's literary works, with a particular interest in how a posthumously published short story by Ross appeared somewhat prophetic. Chernin's article, 'An Artificial Heart Revives a Corpse: Sir Ronald Ross's Unpublished Short Story of 1882, "The Vivisector Vivisected"' is primarily a republication of Ross's Gothic short story 'The Vivisector Vivisected'. At the time of writing, Chernin thought the story had never been

³³ Mary E. Gibson and Edwin R. Nye, *Ronald Ross: Malariologist and Polymath* (London: MacMillan Press Ltd., 1997), p. 199.

³⁴ *Ibid.*, pp. 199-201.

³⁵ *Ibid.*, p. 210.

³⁶ *Ibid.*, p. 210.

³⁷ *Ibid.*, p. 211.

published, but in fact it had appeared shortly after Ross's death in an anthology of horror stories entitled *Strange Assembly* (1932). Chernin provides an introduction explaining the significance of his republication, describing the short story as having a 'medical science-fiction plot' and emphasising Ross's outstanding foresight to have imagined an artificial heart transplantation that would only be medically possible one hundred years later.³⁸ In Chernin's second article, 'Sir Ronald Ross, Malaria, and the Rewards of Research', he expresses the belief that Ross was also ahead of his time because contemporaneous society did not appreciate the genius of his malaria discovery. In both Chernin's hagiographic articles, Ross is presented as an outstandingly progressive and underappreciated physician-hero and writer. Although Chernin's articles do touch on one piece of Ross's literary output, his works are articles of medical history: Chernin does not employ literary critique in the articles to analyse his primary sources.

Primary Sources

The primary source material for this thesis comes from archival material that Ross collected. On 3 October 1928, both the *Manchester Guardian* and *The Scotsman* reported on the shocking news that Ross wanted to sell his carefully curated archive.³⁹ In the interview reprinted in both newspapers, Ross casually remarks that he 'would sell [his entire archive] to America, but I should prefer that the purchaser be a Briton since I am a Briton myself.'⁴⁰ Evidence of the careful presentation of his public persona is clear even in this interview, as he declares himself a proud Briton. In contrast, in Ross's private correspondence with Howard A. Kelly (1858-1943), a gynaecologist who, along with Sir

³⁸ Eli Chernin, 'An Artificial Heart Revives a Corpse: Sir Ronald Ross's Unpublished Story of 1882, "The Vivisector Vivisected"', *Perspectives in Biology and Medicine*, 31 (3) (1988), 341-352 (p. 342).

³⁹ Anonymous, 'Historic Malaria Documents. Why Sir Ronald Ross is Selling Them. Unrewarded Discovery', *The Scotsman*, 3 October 1928, p. 7; Anonymous, 'Tropical Disease: Sir Ronald Ross's Papers. Historic Collection for Sale', *Manchester Guardian*, 3 October 1928, p. 4.

⁴⁰ Anonymous, 'Historic Documents', *The Scotsman*, p. 7.

William Osler (1849-1919) and two others, was one of the founding professors of Johns Hopkins University, Ross admits: ‘I should almost prefer them to go to the states because you take much greater interest in tropical medicine’.⁴¹ Continuing the interview, Ross notes, ‘quite dispassionately’ to the reporters present that he ‘had never received a single penny from the British Government in recognition of his discovery’:

I received nothing, although they gave £30,000 to [Edward] Jenner for his discovery of vaccination. [...] They seem to have forgotten that malaria kills more people than any other disease in the world, that it has been killing people since before Christ, and that for every 1,000,000 it kills it renders about 2,000,000 sick. [...] It would cost millions, but surely it is better to spend the millions on that sort of work than to spend them on killing Germans.⁴²

Ross’s understanding of his malaria discovery as a world-altering event is evident in this interview. This passage clearly reflects Ross’s self-fashioning as a neglected suffering scientist, explored fully in Chapter One of this thesis. The archive was subsequently sold for £2000 to patriotic philanthropist Lady Lucy Houston (1857-1936), who also wished for the papers to remain in Britain. She offered the collection to the British Museum, but upon their refusal she returned them to the Ross Institute, where they stayed until Ross’s death in 1932.⁴³

Today, the archive Ross offered for sale is split: 19,000 documents are kept in the Ross Collection at the London School of Hygiene and Tropical Medicine (LSHTM), while the remaining 11,891 documents, also called the Ross Collection, are housed at the Royal College of Physicians and Surgeons of Glasgow (RCPSG). Barbara Elizabeth Beaumont, in the preface to her index of the RCPSG Ross Collection, recalls the rumour of how the archive came to be divided: ‘The part which [Ross] had sorted and indexed was filed in 84 filing boxes, each document bearing a stamp “Ross Archives”’, while the materials yet to

⁴¹ Glasgow. Royal College of Physicians and Surgeons of Glasgow. The Ross Collection. ‘Sir Ronald Ross to Howard Kelly. Typescript. BG 250 9/RI/15/3/40. 4 October 1923.

⁴² Anonymous, ‘Historic Documents’, *The Scotsman*, p. 7.

⁴³ Barbara Elizabeth Beaumont, *Sir Ronald Ross: a bio-bibliography* (Glasgow: Royal College of Physicians and Surgeons of Glasgow, 1974), p. iii.

be archived were kept in Ross's own room at the Ross Institute.⁴⁴ Upon Ross's death, Sir Malcolm Watson (1873-1955), a native Glaswegian and Fellow of the RCPSG, took on the role of Director of the Ross Institute. Watson 'cleared the room of [Ross's] possessions, including that section of the Ross Archives' housed in Ross's room.⁴⁵ The materials found in Ross's rooms were entitled the Ross Collection, to distinguish them from the already-catalogued Ross Archive. In 1933, Watson presented the Ross Collection to the RCPSG, where they are now housed. In 2000, the materials kept at the LSHTM were re-catalogued and renamed the Ross Collection. For ease of understanding, this thesis will identify the LSHTM Ross Collection under its original name of the Ross Archive, while the RCPSG will be identified as the Ross Collection.

Beaumont explains that 'the division between the Ross Archives and the Ross Collection is purely an arbitrary one – each supplements and complements the other considerably'.⁴⁶ While scholarly interest in Ross has grown recently, thus far the Ross Collection has been entirely neglected by literary scholars.⁴⁷ Aside from the two biographies mentioned above, little research has been conducted utilising the Ross Collection before this thesis. As such, my aim is to build upon and challenge recent scholarship by utilising the Ross Collection as this thesis's primary source of archival materials. For example, there is very little material related to the publication of Ross's novels, poetry or memoirs at the LSHTM's Ross Archive, whereas the Ross Collection holds drafts of poetry and novels, related publishing correspondence, press cuttings, and much of Ross's correspondence with celebrity scientific and literary figures. Since there are 11,891 documents in this archive alone, for this thesis I did not attempt an exhaustive

⁴⁴ Ibid., p. iii.

⁴⁵ Ibid., p. iii.

⁴⁶ Ibid., p. iv.

⁴⁷ For recent references to Ross by literary scholars see Jessica Howell, *Malaria and Victorian Fictions of Empire* (Cambridge: Cambridge University Press, 2019); Emilie Taylor-Brown, *Miasmas, mosquitoes, and microscopes: parasitology and the British literary imagination, 1885-1935*. (PhD Thesis, University of Warwick, 2016); Lorenzo Servitje, "Triumphant Health": Joseph Conrad and Tropical Medicine', *Literature and Medicine*, 34 (1) (Spring 2016), pp. 132-157.

analysis of the Ross Collection. Instead, from the Ross Collection, I focused only on materials published during Ross's lifetime: namely, his memoirs, novels, poetry, along with press clippings Ross curated in relation to the reception of these works, his correspondence with fellow distinguished nineteenth-century figures, and manuscripts from his speeches. Examining the material in this way, viewing material Ross clearly wished to have read and critiqued alongside materials related to his reception and networking within the literary marketplace, focused this thesis on the relation between Ross's literary output and his self-fashioning.

In conjunction with material found in the two Ross archives, I added relevant articles or reviews via newspaper online databases in relation to Ross's literary output that were not archived by Ross or available in the Ross Collection. I also utilised the National Library of Scotland's (NLS) John Murray Archive, the collected materials of one of Ross's publishers, which included their correspondence on Ross's various publications. Additionally, I reviewed the complete collection of *Science Progress* (a popular science magazine also available at the NLS) which Ross was editor of and frequent contributor to from 1913-1932. Previous Ross scholars have not assessed these materials, enabling me to undertake the first sustained examination of Ross's literary output in relation to his self-fashioning.

Literary Criticism

At the time this thesis began, the two biographies of Ross and the two short articles by Chernin noted above were the only texts to provide commentary on Ross's obscure literary works. As a result of this lack of Ross-specific criticism, Laura Otis's text on 'the issue of identity through the work of physician authors', particularly how 'literary and medical representations of selfhood cross-pollinated one another' was a foundational piece of

scholarship for this thesis.⁴⁸ Otis interrogates the literary and scientific work of multiple physician-writers, including Dr Silas Weir Mitchell (1829-1914) and Sir Arthur Conan Doyle (1859-1930) who this thesis establishes as friends of Ross (see Chapter Three), in an examination of invasion metaphors. Otis devotes four chapters to scientists whose work bears resemblance to Ross's: Robert Koch (1843-1910), Mitchell, Santiago Ramón y Cajal (1852-1934), and Doyle. Koch, who received the Nobel Prize in medicine three years after Ross, was a German microbiologist who 'saw it as his duty to identify and destroy the microbes that hindered European settlers in Africa and Asia.'⁴⁹ Otis describes how, in his writing, Koch fashions scientists as 'imperial adventurers scrambling for gold'.⁵⁰ Further, Otis examines Koch's speeches to the German Colonial Society where he suggests that 'doctors in Africa became analogous to soldiers, defending the empire against its tiny enemies'.⁵¹ Otis then links these metaphors to Mitchell's understanding of disease. While examining Mitchell's novel, *Dr North and His Friends* (1900), Otis explains that Mitchell 'represents internal, psychological threats as external, physical, and foreign ones'.⁵² Even when Mitchell was unwell he 'represent[ed] infection as an attack or invasion'.⁵³ Otis also discusses how Mitchell's father, John Kearsley Mitchell (1798-1858), and their family friend and fellow physician-writer, Oliver Wendell Holmes (1809-1894), helped form Mitchell's metaphors of invasion due to their early understanding that 'diseases were caused by living germs'.⁵⁴ Otis explains that this understanding of disease 'predisposed [Mitchell] to see illness as violations against which the body must be on guard'.⁵⁵ Otis then examines the work of Cajal, who won the Nobel Prize for medicine just four years after Ross, noting his 'metaphorical references to war' in his scientific writing that suggest

⁴⁸ Laura Otis, *Membranes: Metaphors of Invasion in Nineteenth-Century Literature, Science and Politics* (Baltimore: Johns Hopkins University Press, 1999), p. 2.

⁴⁹ *Ibid.*, pp. 31-2.

⁵⁰ *Ibid.*, p. 31.

⁵¹ *Ibid.*, p. 32.

⁵² *Ibid.*, p. 38.

⁵³ *Ibid.*, p. 40.

⁵⁴ *Ibid.*, p. 40.

⁵⁵ *Ibid.*, p. 41.

‘Cajal wanted to revive the decrepit Spanish colonial empire, and like Koch, he saw scientific investigation as its foundation’.⁵⁶ Finally, Otis links all the previous physician-writers to Doyle. She identifies Doyle as an

enthusiastic supporter of the British Empire, [who] brought to life the fantasy of a national immune system through his character Sherlock Holmes. [...] The British loved Holmes for the same reasons that Doyle admired Koch: he devoted all of his formidable mental powers to identifying and neutralizing living threats to society’.⁵⁷

As this thesis will evidence, Ross uses similar invasion metaphors to those identified by Otis, particularly in his *Memoirs* and during his editorship of *Science Progress*, indicating a similar form of cross-pollination. However, this thesis particularly seeks to examine how Ross’s literary works contributed to the fashioning of his medico-scientific persona. This thesis then provides evidence of Ross’s use of an expansive constellation of imagery to different effect in different literary formats.

This thesis also builds on the more recently published *Malaria and Victorian Fictions of Empire* (2019). Jessica Howell draws upon fiction by contemporaneous authors like H. Rider Haggard (1856-1925), Rudyard Kipling (1865-1936), and Olive Schreiner (1855-1920) to examine changes in *fin de siècle* fiction, paralleling it with a particularly dynamic time for malaria research:

The foundations for the mosquito theory were established in the 1870s and 1880s. British doctor Patrick Manson discovered in 1879 that a parasitic roundworm could be transmitted through mosquito bites. [...] In 1884, in “Treatise on Marsh Fevers,” Laveran proposed that this parasite also could be transmitted through mosquitoes. [...] Ross proved this conclusively when, stationed in India in 1897, he observed the parasite in the stomachs of mosquitoes.⁵⁸

Howell demonstrates three ways in which symptoms of malaria influenced Victorian narratives of empire: how the notion of remittent fever ‘influences [...] plot, chronology,

⁵⁶ Ibid., p. 88.

⁵⁷ Ibid., p. 91.

⁵⁸ Howell, *Malaria and Victorian Fictions of Empire*, p. 6.

and characters' own "Feverish" altered states of consciousness'; how the 'endemic and epidemic characteristics' of malaria are drawn upon in relation to medical geography (i.e. identifying different nationalities as differently affected by malaria); and how, with ever-increasing knowledge of malaria, the disease was linked 'to processes of self-diagnosis, which include self-reflection and introspection.'⁵⁹ Howell references Ross regularly, finding commonalities between Ross's scientific writings and the malarial empire fiction of others. For example, Howell states 'both [...] Haggard and scientist Ronald Ross [...] use the tropes of adventure and discovery within the colonial context to signify geographical and scientific mastery'.⁶⁰ Howell links Ross to these writers in terms of his medico-scientific research for the empire, identifying how his research influenced their narratives. However, Howell does not identify Ross as a writer of malarial empire fiction and does not examine his published novels, *The Child of Ocean* (1889), *The Spirit of Storm* (1896), and *The Revels of Orsera* (1920), in her text. This thesis provides that examination of Ross's never-before critiqued novels, utilising Howell's interrogation of contemporaneous work and contextualising Ross's writings in relation to nineteenth-century malarial empire fiction.

Howell also briefly engages with Ross's poetry, noting Lilius Rider Haggard's biography of her father, *The Cloak That I Left* (1951), for which Ross contributed a quatrain as a frontispiece. Howell identifies this quatrain as evidence of Ross and Haggard's supportive relationship: they were 'bolstering each other's scientific and literary reputations, respectively'.⁶¹ While discussing how Ross commemorates his malaria discovery in *Memoirs*, Howell references one of Ross's poems entitled 'In Exile'. She argues that this poem evidences the consolidation 'of the heroic narrative' and the creation of a 'coherent arc' as the poem

⁵⁹ Ibid., p. 8.

⁶⁰ Ibid., p. 9.

⁶¹ Ibid., p. 76.

echoes colonial adventure texts by creating a narrative of physical toil and progress toward discovery [...] The title [...] illustrates science's role in both forming and protecting the boundaries of an expatriate community – a kind of nationalist enterprise.⁶²

This thesis similarly examines the autobiographical elements of Ross's poetry, but does so across his full corpus, questioning how these can be read as part of the self-fashioning of his public persona as a medico-scientific researcher across different stages of his career.

Emilie Taylor-Brown's thesis and forthcoming book, *Miasmas, mosquitoes, and microscopes: parasitology and the British literary imagination, 1885-1935*, another vital piece of research for this project, examines the rhetoric utilised by parasitologists during the professionalisation of their discipline and how that rhetoric was inspired by and subsequently reinterpreted by literary culture. She explains that

parasitology emerged as an institution consciously entrenched in British national identity. The myths and legends that parasitologists appropriated in their public and private correspondence became stories about nationhood that sought to instil western scientific authority in narratives of British imperial prowess.⁶³

Taylor-Brown identifies 'a stock of metaphors and images' entangling 'imperialist and Arthurian rhetoric', used by parasitologists to give the subgroup of scientists a distinctive identity.⁶⁴ Throughout the thesis, amongst other parasitologists, she examines Ross's scientific writings and his 'branding' or self-fashioning.⁶⁵ My research advances Taylor-Brown's thesis because, while she focuses on how professionals within the burgeoning field of parasitology narrativised science and influenced British literature, she does this without reference to Ross's scientific autobiography, fictive output, or contributions to *Science Progress*.

⁶² Ibid., p. 148.

⁶³ Taylor-Brown, *Miasmas*, p. 127.

⁶⁴ Ibid., p. 129. Ibid., p. 133.

⁶⁵ Ibid., p. 141.

Taylor-Brown's chapter on 'the reciprocal relationship between parasitology and [...] adventure romance and detective fiction' also prepares the groundwork for this research, which partially focuses on Ross's romances.⁶⁶ Of particular relevance to my examination of Ross's various forms of literary output is her identification of 'morality narratives associated with parasitic infestation', which she explains spans literature from the early nineteenth century into the twentieth, despite the shift in medical knowledge from 'miasmatic to vector-borne understanding'.⁶⁷ While rarely noting Ross's literary output, Taylor-Brown does explain Ross's belief in the symbiotic relationship between science and literature and rightly asserts that 'according to Ross, [both literature and science] have the shared goal of educating the public'.⁶⁸ This thesis advances Taylor-Brown's work, as each chapter will, in part, examine the didactic operations of his literary work and how this didacticism relates to his self-fashioning.

Thesis Structure

Ben Marsden explains that Literature and Science studies must look further afield than the canonical writers that populated early research. He proposes that 'non-canonical, obscure or undistinguished literature can offer sharper insights and stronger challenges to preconceptions about the past than texts which fit more easily into modern aesthetic codes'.⁶⁹ With this in mind, this thesis attempts to offer 'sharper insights' on the utilisation of various forms of literary work as tools for the self-fashioning of the colonial surgeon and the medico-scientific researcher.

⁶⁶ Ibid., p. 41.

⁶⁷ Ibid., p. 41.

⁶⁸ Ibid., p. 341.

⁶⁹ Ben Marsden, *Uncommon Contexts: Encounters Between Science and Literature, 1800-1914* (London: Routledge, 2015), p. 9.

This thesis is divided into four chapters, each of which focuses on a different form of writing penned by Ross and published during his lifetime. This structure allows for a strategic examination of Ross's use of different forms, enabling this thesis to ask: How did content differ in each form Ross used? Do these various forms enable different strands of Ross's self-fashioning? Why might one form have appeared more suited than another for presenting a particular strand of Ross's self-fashioning? Then, within each chapter, I have chosen chronological analysis based on publication date, interrogating the development of Ross's four chosen literary forms throughout the course of his life. The only notable deviation from this chronological approach is Chapter One, since I begin with Ross's *Memoirs* which was published in 1923, near the end of Ross's life. My thesis begins with Ross's scientific autobiography for two reasons: because it allows for an exploration of other literary formats in relation to *Memoirs*, questioning the extent to which Ross's self-fashioning in his later tome differs from that of his other works and, secondly, because it provides a detailed account of Ross's life, eminently useful for understanding the subsequent thesis chapters.

Chapter One focuses on Ross's scientific autobiography, *Memoirs*. The chapter seeks to examine the melange of imagery employed in *Memoirs*, asking how this imagery works to evoke sympathy for the hardships faced by Ross in his self-fashioning as neglected suffering scientist. This chapter explores the extent to which Ross creates a distinct narrative of scientific research by contextualising *Memoirs* in relation to past and contemporaneous scientific life writing. Additionally, I will highlight crucial archival material relating to Ross's autobiography, such as Ross's correspondence with his publisher and contemporaneous reviews, to enable this chapter to focus on the development of his literary self-fashioning as a neglected suffering scientist during the writing process and to ask how this self-fashioning was received.

In Chapter Two I focus on Ross's branding as a romancer by examining his three published romances, *The Child of Ocean*, *The Spirit of Storm*, and *The Revels of Orsera*, within the contemporaneous context of the romance revival and Howell's recent examination of malarial empire fiction. Alongside Ross's three published novels, I will consider key archival material detailing publication issues, Ross's correspondence with canonical authors like Haggard and Doyle, and contemporaneous reviews. The chapter seeks to explore the didacticism of Ross's first two romances, focusing on how and why they impart medical and scientific knowledge and dramatise the relevance of that knowledge to British health and imperialism. I ask how this didacticism relates to Ross's contemporaneous self-fashioning as romancer and burgeoning medico-scientific researcher. The closing section concentrates on Ross's final novel, *The Revels of Orsera*, published after he had garnered a certain level of fame for his malaria work. Here, I ask why Ross's final novel, unlike the previous two, does not focus on issues of imperial health. Instead, as this chapter will argue, *The Revels of Orsera* appears as an allegory dramatising the danger of national ingratitude for virtuosity and selfless good deeds, reflecting Ross's later branding as a neglected suffering scientist.

Chapter Three makes use of Howell's comment that Ross creates a 'heroic narrative' and 'coherent arc' in his poem 'In Exile' to examine Ross's largely autobiographical poetic corpus.⁷⁰ Through a chronological exploration of Ross's poetry, I focus on how his poetical works act as a key literary format for the development of his public persona as a medico-scientific researcher. The chapter makes use of relevant archival materials, such as Ross's 1920 Royal Institution speech on 'Science and Poetry' and his correspondence with fellow physician-poets like Mitchell, Osler, and Doyle, to examine the ways in which Ross positions himself in relation to prominent forebears and contemporaries. This chapter will also make use of reviews of Ross's poetry collections,

⁷⁰ Howell, *Malaria and Victorian Fictions of Empire*, p. 148.

identifying how his poetry was received by medics, scientists, and the public to interrogate the extent to which Ross was successful in his poetical self-fashioning.

Chapter Four aims to provide the first critical examination of the popular science magazine *Science Progress*, which Ross edited from 1913-1932. The chapter focuses on Ross's self-fashioning around the time of the 1916 Neglect-of-Science debate, a debate in 'which politicians, scientists, and other social commentators discussed whether Britain's ill fortunes in the war were a result of neglecting scientific research.'⁷¹ Moving through *Science Progress* from 1913 onwards, I will examine the development of what Turner describes as the 'most bitter and exaggerated' contemporaneous writing on the governmental neglect of science.⁷² This chapter then seeks to explore the public ideology Ross was crafting in the magazine around the time of the Neglect-of-Science debate to interrogate his self-fashioning during his editorial tenure. An examination of Ross's obituary in *Science Progress* ends the chapter, to question the recognition Ross gained from his self-fashioning in the magazine.

This thesis concludes by briefly questioning Ross's cultural memorialisation today and the refashioning of Ross in Amitav Ghosh's *The Calcutta Chromosome* (1995). The epilogue examines how, through the lens of post-colonialism, Ghosh interprets the cultural impact of Ross's self-fashioning and presents a reconceptualisation of Ross's research for a modern-day readership.

Ultimately, through examining the little-known literary work of Ross, this thesis hopes to offer 'sharper insights' on narrativising science in *fin de siècle* scientific life writing; Ross's contribution to the romance genre during the romance revival; the use of poetry as a tool to highlight and advance the cultural authority of science, and the key role of popular science magazine *Science Progress* in the Neglect-of-Science debate.

⁷¹ Melinda Baldwin, *Making "Nature": The History of a Scientific Journal* (Chicago: University of Chicago Press, 2015), p. 95.

⁷² Turner, *Contesting Cultural Authority*, p. 222.

CHAPTER ONE

CHALLENGING ‘RECORDS OF RESULTS’: FASHIONING THE NEGLECTED SUFFERING SCIENTIST

Introduction

In his proposal to John Murray (1884–1967), Ronald Ross claimed that his upcoming book would be ‘the most dramatic story in scientific history’.¹ This chapter establishes *Memoirs: with a full account of the great malaria problem and its solution* (1923), the book to which Ross alluded, as a distinct scientific autobiography, and interrogates Ross’s most explicit attempt at self-fashioning through literary work. Rita Charon claims that autobiographies are a key format through which to publicly self-fashion: they are ‘a useful way to come to grips with the processes of telling the self’.² However, in *Dying to Know*, George Levine’s seminal exploration of Victorian scientific autobiographies, he explains that ‘telling the self’ is an uncommon trope. Levine defines these autobiographies as works that attempt to fit the ‘dying-to-know’ narrative, a narrative that combines an unreserved striving for knowledge with ‘willingness to repress the aspiring, desiring, emotion-ridden self and everything merely personal, contingent, historical, material that might get in the way of acquiring knowledge’.³ This chapter examines how Ross’s autobiography challenges the ‘dying-to-know’ narrative so that he may gain public recognition as a suffering hero. This chapter will argue that *Memoirs* acts as an oppositional narrative: Ross rejects ‘dying-to-know’ because it compels researchers to go unacknowledged in their suffering for science.

¹ Edinburgh, National Library of Scotland. The John Murray Archive. B. V. 21 Sir R. Ross Memoirs. ‘Sir Ronald Ross letter to John Murray’, 12 March 1921.

² Rita Charon, *Narrative Medicine: Honouring the Stories of Illness* (Oxford: Oxford University Press, 2006), p. 70.

³ George Levine, *Dying to Know: Scientific Epistemology and Narrative in Victorian England* (Chicago: University of Chicago Press, 2002), p. 2.

Memoirs allows Ross to retrospectively reflect on his suffering for knowledge, infusing his scientific autobiography with a telling of the self, to uncover the national neglect and public ignorance of the suffering hero. The following section provides an account of Ross's medico-scientific career to juxtapose the facts of Ross's life before, during, and after his scientific breakthrough with the ways in which Ross presents these periods of his life to the reader in *Memoirs*.

Ross's Medico-Scientific Career

In 1874, at the age of seventeen, Ross entered St Bartholomew's Hospital Medical College in London. In 1879, at the conclusion of his studies, he qualified for the Royal College of Surgeons, but failed the Licentiate of the Society of Apothecaries. This failure meant he could not qualify for the IMS, much to his father's disappointment.⁴ In response to his father's threat to 'reduce [his] allowance', Ross decided to stop taking an allowance, instead earning a wage by working as ship's surgeon on the *S. S. Alsatia*, which travelled between London and New York.⁵ Early in 1881, Ross passed the examination for the Licentiate of the Society of Apothecaries. He then became a surgeon-apothecary and, after a 'course of military medicine and surgery, lasting four months' at the Royal Victoria Hospital and School at Netley, began working for the IMS in Madras.⁶

While on furlough from the IMS in 1888, Ross, having thus far had a lacklustre career in India, determined to focus on 'sanitary work, the importance of which for India [he] fully recognised'.⁷ Thus, he travelled to London to complete the newly established Diploma in Public Health through the Royal Colleges of Physicians and Surgeons. In his

⁴ Ronald Ross, *Memoirs: with a full account of the great malaria problem and its solution* (London: John Murray, 1923), p. 38.

⁵ *Ibid.*, p. 38.

⁶ *Ibid.*, p. 40.

⁷ *Ibid.*, p. 87.

Memoirs, he explains that ‘bacteriology, created by Pasteur and Koch, was coming to the fore, even in England’.⁸ Intrigued by this burgeoning field of study, Ross also completed a course in bacteriology at St Bartholomew’s with Emanuel Edward Klein (1844-1925).⁹ Klein, regarded as ‘the father of British microbiology’ because of his *Micro-organisms and Diseases* (1884), ‘made Pasteur’s and Koch’s bacteriological discoveries, published in French and German journals, available for the first time to English and American scientists’.¹⁰ Bruno Atalic and Stella Fatovic-Ferencic explain that, while Ross was an undergraduate at St Bartholomew’s, Klein was infamous throughout Britain ‘because of his undisguised attitudes and opinions on the use of vivisection’.¹¹ Klein’s notorious cruelty to animals, revealed in his unfeeling answers to the 1875 Royal Commission on Vivisection for Scientific Purposes, made him ‘a paradigm of the new scientific identity’ of the hyper-rational scientist.¹² In later years, potentially because of mentorship from Klein, Ross would come to the defence of ardent vivisectionists using his literary work.¹³

On furlough again in 1894, Ross met with Patrick Manson (1844-1922) to discuss malarial transmission. Manson, who had already discovered the mosquito vector for the parasitic disease known as elephantiasis while working as a medical officer for Chinese Imperial Maritime Customs, was then theorising about malarial transmission. Bynum notes that ‘Manson demonstrated Laveran’s parasite to Ross, introduced him to the recent malaria literature, and took him [...] to see patients with the disease in London

⁸ *Ibid.*, p. 87.

⁹ W. F. Bynum, ‘Ross, Sir Ronald (1857–1932)’, *Oxford Dictionary of National Biography*, Oxford University Press, 2004, URL: <http://www.oxforddnb.com/view/article/35839> [Accessed: 9 September 2017].

¹⁰ Bruno Atalic and Stella Fatovic-Ferencic, ‘Emanuel Edward Klein—The Father of British Microbiology and the Case of the Animal Vivisection Controversy of 1875’, *Toxicologic Pathology*, 37 (6) (2009), 708-713 (p. 709).

¹¹ *Ibid.*, p. 708.

¹² *Ibid.*, p. 708.

¹³ Ross wrote ‘The Vivisector Vivisected’ in 1881: a short story revolving around the vivisection debate. It remained unpublished during his lifetime. Later, he published two articles for the *Nation* on the topic of vivisection: ‘Experiments on Animals’ (May 1914) and ‘The Dogs Bill’ (July 1914), both of which highlight the hypocrisy of animal rights activists, who Ross claimed ate meat and wore furs while campaigning to stop the work of vivisectionists. As a result of these articles, Ross was caricatured in *The Abolitionist* journal. He was appalled by the caricature, keeping a cutting of it in his archive and adding the words: ‘My portrait – back view! I have never done any vivisection in my life.’

Hospitals'.¹⁴ Ross was then charged with proving Manson's malaria hypothesis by 'identifying [...] the parasites in the blood of patients with malarial fever and then exposing such patients to the bites of mosquitoes, which had subsequently to be shown to pass on the parasite.'¹⁵ Gibson and Nye explain where Ross's research falls within a chronology of contemporaneous scientific research:

Pasteur had established [...] the microbial nature of infections by microorganisms and had also laid the foundations of immunotherapy. Laveran had made incisive observations on the parasitic nature of malaria, Golgi had demonstrated the variability of the malaria germ and Manson had implicated mosquitos as intermediate hosts of certain filarial worms which caused human disease. Ross's [ambition was to be] the first to show the role of mosquitos in the transmission of malaria.¹⁶

As a result of Manson's research, along with his development of the Hong Kong College of Medicine for Chinese (now the University of Hong Kong) and the LSHTM, he is now known as the founding father of tropical medicine. Chernin and others confirm that Ross made his discovery in large part due to 'Manson's epistolary encouragement and advice, together with [Ross's] considerable labour, discomfort, and personal cost'.¹⁷

Ross left England to begin research in India on 28 March 1895 'full of evangelical zeal for the task and probably still under the considerable spell of Manson's personality'.¹⁸ Gibson and Nye emphasise Ross's eagerness to begin work, noting that, before joining the 19th Madras Infantry Regiment in Secunderabad, Ross first went to the Civil Hospital in Bombay to begin research.¹⁹ By May 1895, Ross was able to identify the first phases of the parasite's development in the stomach of his dissected mosquitoes.²⁰ However, '[t]o some extent Ross's efforts [...] were somewhat askew of the "right track"' because Ross was

¹⁴ Bynum, 'Ross'.

¹⁵ Mary E. Gibson and Edwin R. Nye, *Ronald Ross: Malariologist and Polymath* (London: MacMillan Press Ltd, 1997), p. 3.

¹⁶ *Ibid.*, p. 1.

¹⁷ Eli Chernin, 'Sir Ronald Ross, malaria, and the rewards of research', *Medical History*, 32 (2) (1988), 119-141 (p. 120).

¹⁸ Gibson and Nye, p. 57.

¹⁹ *Ibid.*, p. 57.

²⁰ *Ibid.*, p. 58.

following Manson's theory which postulates that shortly after laying eggs in water the mosquitoes would also leave the parasite, thereby infecting the water.²¹ Gibson and Nye explain that 'Ross tried the experiment of giving water in which had died "malariated" mosquitos to volunteers to drink on a number of occasions. Needless to say nothing happened.'²² In September 1895, Ross was ordered to leave Secunderabad and travel to Bangalore to help with an outbreak of cholera.²³ This disturbed Ross's research, as Bangalore 'did not provide a suitable large reservoir of malaria stricken patients to allow research on a reasonable scale.'²⁴ In May 1896 Ross left Bangalore and made an 'expedition to a malarious area near Ootacamund' to continue his research.²⁵ While in Ootacamund he became ill due to malaria, but successfully treated himself with quinine.²⁶ Ross returned to the 19th Madras Infantry Regiment in Secunderabad in June 1897.²⁷ It was on 20 August 1897 that he made a crucial discovery, which he recalls in *Memoirs*:

[A] number of adult insects had emerged from pupae collected the previous day. The mosquitoes were promptly fed on a malarious patient, called Husein Khan [...]. Ross then dissected the mosquitoes that fed from Khan [...]. He found strange cells in the stomach wall and assumed that this was a stage of the malarial parasite. [...] Ross now had the key to the whole problem. [...] He had explored every possible avenue open to him in chasing the parasite in the mosquito and his industry and perseverance paid. [...] On 22 August Ross wrote Manson a long letter with the news of his discovery.²⁸

Unfortunately, on 24 September 1897, Ross was ordered to report immediately to Bombay to be sent elsewhere for IMS duty. Ross was eventually sent to Kherwara, another detrimental move for his research.²⁹ On 27 January 1897 Ross was accepted for special duty, allowing him to abandon his IMS work at Kherwara for a time in order to confirm his

²¹ Ibid., p. 60.

²² Ibid., p. 60.

²³ Ibid., p. 62.

²⁴ Ibid., p. 64.

²⁵ Ibid., p. 65.

²⁶ Ibid., pp. 65-66.

²⁷ Ibid., p. 66.

²⁸ Ibid., pp. 68-69.

²⁹ Ibid., p. 70.

malaria research in Calcutta.³⁰ An article on Ross's discovery was published in the *British Medical Journal* on 18 June 1898 written by Manson and entitled 'Surgeon-Major Ronald Ross's Investigations on the Mosquito-Malaria Theory'.³¹ On 25 June, despite only testing his theory on birds, Ross conclusively stated that he had discovered how malaria was transmitted from mosquito to human. Indeed, Gibson and Nye note that 'without actually testing the role of the mosquito as vector in human malaria the parallels were so close that the outcome of further studies on man would be virtually a foregone conclusion.'³² After uncovering how malaria was transmitted from mosquito to bird (therefore inferring malaria's transfer from mosquito to human), Ross retired from the IMS and returned to England where he took up a post at the Liverpool School of Tropical Medicine.

In his biography of Ross, Bynum comments that, having made his discovery Ross became aggressively defensive about protecting his priority:

The principal object of his opprobrium was the Italian parasitologist Giovanni Battista Grassi. Grassi and several of his co-workers were actively investigating malaria in 1897 and 1898, and it was they who demonstrated the malaria cycle in human beings, shortly after Ross's definitive work on bird malaria.³³

Gibson and Nye confirm Ross's increasing paranoia, noting that he 'appeared to become more and more malevolent about what he perceived as a deliberate attempt by Grassi to pirate his results'.³⁴ Chernin points out that Ross was also consumed by the idea of collecting monetary rewards for his medical research, despite receiving praise and recognition by being elected 'to the Royal Society in 1901, [being awarded] the Nobel Prize in 1902, and [gaining] a knighthood (KCB) in 1911'.³⁵ Ross's outlook changed then, with 'darker aspects of [his] personality [intruding on] the satisfaction he might have felt

³⁰ Ibid., p. 71.

³¹ Ibid., p. 74.

³² Ibid., p. 75.

³³ Bynum, 'Ross'.

³⁴ Gibson and Nye, p. 90.

³⁵ Chernin, 'Sir Ronald Ross', p. 120.

about the honours and fame which came to him'.³⁶ Chernin documents in detail the various methods Ross used in an attempt to gain a monetary reward: Ross expected to be treated in a similar manner to Edward Jenner (1749-1823), who received £30,000 from the British Government for creating vaccinations in the early nineteenth century.³⁷ In an effort to gain remuneration, Ross unsuccessfully petitioned the government multiple times; approached the Royal Commission on Awards to Inventors, who disregarded medical discovery as invention; and eventually sold his entire personal archive for £2,000.³⁸ It was during this period, when he felt that he and his pioneering research had been neglected on a national scale, that Ross decided to write his scientific autobiography.

Ross's Book Proposal

On 12 March 1921, Ross wrote a letter in the form of a book proposal to Murray. The primary function of the book, according to this proposal, was not to create a memoir of Ross's life, but to provide a 'full account of [his] work in connection with malaria'.³⁹ In his proposal, Ross declares that this account will document 'the most dramatic story in scientific history', a claim that he restates in the published edition of *Memoirs*.⁴⁰ In the concluding lines of the letter to Murray, Ross speculates on the title of the text:

I have thought of calling the whole thing an autobiography, but conclude that under this name it would scarcely be possible to give the fundamental correspondence with Manson and others – that is, the book must be *ad hoc* in order to do the subject justice.⁴¹

³⁶ Bynum, 'Ross'.

³⁷ Chernin, 'Sir Ronald Ross', p. 121.

³⁸ *Ibid.*, p. 134.

³⁹ Edinburgh, National Library of Scotland. The John Murray Archive. B. V. 21 Sir R. Ross *Memoirs*. 'Sir Ronald Ross letter to John Murray', 12 March 1921.

⁴⁰ *Ibid.*, p. 1.

⁴¹ *Ibid.*, p. 1.

Ross disregards the idea of this text being an autobiography, as that format would not allow for a detailed and objective account of the process of discovery with the full correspondence between him and his mentor. Thus, the proposed text should follow the ‘dying-to-know’ narrative as described by Levine; it should exhibit a denial of the self in order that the scientific research can take centre-stage. However, less than a month later Ross begins to change his mind.

In a letter to Murray dated 4 April 1921, Ross offers an alternative title for the proposed text: ‘I have added a sub-title, An Autobiographical Account, subject to your approval’.⁴² As work on the text progresses Ross introduces the idea of a personal narrative; he tacks on as an afterthought ‘an Autobiographical Account’. It appears then that an account of his years of malaria research will still be the most prominent aspect of the proposed text, but that a ‘telling of the self’ will also be given some attention.⁴³ While Murray’s response regarding a change of title is not available, the 12 September 1921 letter from Ross confirms that he allowed the change: ‘I am getting on with my book, “The Great Malaria Problem and its Solution – an Autobiographical Account”’.⁴⁴ In the same letter Ross continues: ‘I really do not know whether it would be better to give the book the title mentioned above, or, more simply, to call it “Memoirs. With a Full description of Work on Malaria”, or something of the kind’.⁴⁵ Finally, Ross abandons the notion of self-denial, instead giving his personal narrative prominence by placing the word ‘Memoirs’ at the beginning of the title. This change of title marks the beginning of his distinct narrative which reveals the neglected suffering hero within the genre of scientific autobiography.

⁴² Edinburgh, National Library of Scotland. The John Murray Archive. B. V. 21. Sir R. Ross *Memoirs*. ‘Sir Ronald Ross to John Murray’, 4 April 1921.

⁴³ Charon, p. 70.

⁴⁴ Edinburgh, National Library of Scotland. The John Murray Archive. B. V. 21 Sir R. Ross *Memoirs*. ‘Sir Ronald Ross letter to John Murray’. 12 September 1921.

⁴⁵ *Ibid*, p. 1.

Intended Readership

In his book proposal to Murray, Ross notes that the text will be ‘of interest, not only to doctors, but to all administrators’ stationed in the tropics, and that it will be ‘written in a style which can easily be understood by everyone’.⁴⁶ While writing the book proposal then, Ross imagined the text primarily being marketed to medics in the tropics, presumably because of their interest in malaria. However, Ross emphasised that *Memoirs* should be written in a popular style, perhaps like *Science Progress* (examined in Chapter Four of this thesis), a popular science magazine published by Murray for which Ross was editor. While further letters charting the evolution of the intended readership are not now extant, Ross’s indication that he wished to write in an easily comprehensible style suggests that he was interested in promoting his book to a broader audience.

In the published edition of *Memoirs*, Ross privileges the public over all others. In the opening pages, he explains that his reasons for addressing the public are twofold. Firstly, Ross believed that the medical community ‘had failed’ to promote the results of his malaria discovery ‘because it is allowed little influence in the world’s counsels’.⁴⁷ As late as 1923 then, Ross believed that medics are still striving for the level of political and social influence their profession warrants.⁴⁸ He presents his case to the public because he is of the opinion that ‘it is they, not the doctors, who rule the world’.⁴⁹ Secondly, Ross wishes to dispel a specific ‘misconception’ generated by scientists about scientists:

Our books of science are records of results rather than of that sacred passion for discovery which leads to them. Yet many discoveries have really been the climax of an intense drama, full of hopes and despairs, visions seen in darkness, many

⁴⁶ Edinburgh, National Library of Scotland. The John Murray Archive. B. V. 21 Sir R. Ross *Memoirs*. ‘Sir Ronald Ross letter to John Murray’. 12 March 1921.

⁴⁷ Ross, *Memoirs*, p. v.

⁴⁸ Alison Moulds’s thesis and forthcoming book, *The Construction of Professional Identities in Medical Writing and Fiction, c. 1830s-1910s* (PhD Thesis, University of Oxford, 2016), suggests that the ‘significant period for the professionalisation of medicine’ concluded in the 1910s.

⁴⁹ Ross, *Memoirs*, p. v.

failures, and a final triumph: in which the protagonists are man and nature, and the issue a decision for all the ages.⁵⁰

Ross's *Memoirs* then uncovers previously overlooked aspects of scientists' research narrative. Ross has clearly identified what Levine would later define as 'dying-to-know' narratives, coining them 'records of results'. Ross explicitly disregards the 'dying-to-know'/'records of results' narrative here, challenging autobiographical works of the first generation of scientific naturalists, like Charles Darwin (1809-1882), who wrote his autobiography 'as if [he] were a dead man in another world looking back at [his] own life'.⁵¹ The supposedly stifled emotional toil of scientific research is dramatically revealed here with Ross's use of colourful hyperbole; his intense feelings about the public's ignorance regarding his arduous medico-scientific research can no longer be ignored.

Memoirs then is a direct response to these limiting narratives. Ross claims also to be writing against misconceptions, such as when

[a] witty friend of [his] once remarked that the world thinks of the man of science as one who pulls out his watch and exclaims, "Ha! Half an hour to spare before dinner: I will just step down to my laboratory and make a discovery." Who but men of science themselves are to blame for such a misconception?⁵²

This anecdote then suggests that, not only does Ross aim to challenge the 'records of results' or 'dying-to-know' narrative, but he will also not abide by what Rebecca Herzig has now coined the 'fortuitous scientific accident', another prevailing cultural conception of scientific research.⁵³ Herzig identifies this narrative of effortless scientific achievement in stories such as 'Luigi Galvani's theory of "animal electricity"' (said to have been detected when a charged metal scalpel happened to contact the bared nerve of a dissected

⁵⁰ Ross, *Memoirs*, p. vi.

⁵¹ Charles Darwin, *The Autobiography of Charles Darwin* (London: Collins, 1958), p. 21.

⁵² Ross, *Memoirs*, p. v-vi.

⁵³ Rebecca Herzig, *Suffering for Science: Reason and Sacrifice in Modern America* (New Jersey: Rutgers University Press, 2005), p. 7.

frog)'.⁵⁴ From this extract then, Ross acknowledges these potential narratives for scientific autobiography, and stresses his disapproval.

Having established the limitations of prevailing narratives regarding scientific research, Ross chooses a distinct narrative for *Memoirs*: he will reveal in great detail the emotional toil that enables scientific progress. With this aim in mind, Ross appears not only to promote himself and his research, but also to promote an appraisal of the scientific community. Utilising a rhetorical question at the end of his 'witty friend' anecdote ('Who but men of science themselves are to blame for such a misconception?'), Ross explains that it is men of science who have created these limiting narratives. Anne DeWitt explains that, '[i]n their private communications and public statements, Huxley and Tyndall are simultaneously creating an identity for themselves as individuals, and defining the identity of the man of science more generally.'⁵⁵ With *Memoirs* then, Ross will use his literary output to restore the self to the genre of scientific autobiography.

Previous Cases of Suffering Scientists

Memoirs opens with fourteen pages detailing Ross's ancestry, a common trope of scientific autobiography, indicating that his text is not merely a straightforward wholesale rejection of these accepted narratives. Linda H. Peterson attributes this trope to Darwin's scientific research because 'Darwin's theory [...] ascribed a great many things to heredity'.⁵⁶

Peterson elaborates:

In Herbert Spencer's *Autobiography* (1904), [...] [the] implications of Darwin's work become fully evident. In his preface, Spencer introduces his account as "a

⁵⁴ Ibid., p. 7.

⁵⁵ Anne DeWitt, *Moral Authority, Men of Science, and the Victorian Novel* (Cambridge, Cambridge University Press, 2013), p. 39.

⁵⁶ Linda H. Peterson, *Victorian Autobiography: The Tradition of Self- Interpretation* (New Haven: Yale University Press, 1986), p. 190.

natural history of myself,” and [...] begins not with his birth but with his “extraction.” For seventy pages, Spencer details his family antecedents.⁵⁷

As might be expected in Darwin’s scientific autobiography, he talks at length about the great influence of his physician father and chemist brother on his love of science. Closer in age to Ross, Santiago Ramón y Cajal (1852-1934), a Spanish researcher who won the 1906 Nobel Prize in medicine for research conducted on the nervous system, also begins his autobiography with a reflection on his heredity: ‘I cannot complain of my biological inheritance from my father. [...] With his blood he transmitted to me traits of character to which I owe everything that I am’.⁵⁸ In his autobiography, Arthur Conan Doyle writes four pages carefully describing his ancestors on both his paternal and maternal sides.⁵⁹ According to Nancy Cervetti, Dr Silas Weir Mitchell (1829-1914), fellow physician-writer and friend of Ross, made a ‘self-conscious attempt to construct a personal history’.⁶⁰ In his unpublished autobiography Mitchell begins with nine pages of family history.⁶¹ By opening with a fourteen-page outline of his ancestry then, Ross, to some extent, places his *Memoirs* within this chronology of scientific autobiography.

In the description of his ancestry, Ross notes two medical men: Sir Henry Halford (1766-1844) and William Alexander Ross (*d.*1889). Both references allow Ross to make comments about scientific neglect throughout multiple generations. Referring to Halford, whom Ross’s mother speculated was a relation, Ross explains that he was ‘a physician to ‘George IV, William IV, and Queen Victoria’ and comments that a ‘book about him and several biographies are extant; but, like many other eminent doctors, he does not seem to have been a man of any fame, or even name, as regards medical science.’⁶² Unlike

⁵⁷ *Ibid.*, p. 161.

⁵⁸ Santiago Ramón y Cajal, *Recollections of My Life* (Massachusetts: MIT Press, 1989), p. 4.

⁵⁹ Arthur Conan Doyle, *Memories and Adventures* (London: Wordsworth Editions Ltd, 2007), pp. 3-6.

⁶⁰ Nancy Cervetti, *S. Weir Mitchell, 1829-1914: Philadelphia's Literary Physician* (Pennsylvania: Penn State Press, 2012), p. 3.

⁶¹ Philadelphia. The College of Physicians of Philadelphia. Silas Weir Mitchell Collection. MSS 2/0241-03, Series 7, Autobiography. Undated.

⁶² Ross, *Memoirs*, p. 6.

Halford's work, the life and work of Ross's uncle, William Alexander Ross, provides Ross with an early example to highlight his frustration with lack of recognition for the self-denying scientist:

Perhaps the soundest of all religions is hero-worship; and, next to that, ancestor-worship is a virtue if not a religion [...] The reason why I admire my uncle so much is that he was [...] a true scientific investigator, who simply lost himself in his researches. He was always passionately addicted to the vice of blowpipe chemistry, and actually gave up the Service and took the small pension attached to the rank of major in order to prosecute these investigations, which he thought would bring him great honour.⁶³

Ross reveals that his uncle, the epitome of the self-denying scientist, died in 1889 'much disheartened' by his lack of recognition from British chemists.⁶⁴ The Carlylean notion of the 'Great Man' was a central concept to both the fashioning of the scientist and surgeon during Ross's career: Ross's posthumous fashioning by Malcolm Watson as 'Great Man' and 'the Hero as Scientist' evidences the great honour with which these titles were imbued.⁶⁵ In *On Heroes, Hero-Worship, and The Heroic in History* (1841), Carlyle explains the difference between hero-worship and admiration of a Great Man: 'Worship of a Hero is transcendent admiration of a Great Man. [...] No nobler feeling than this of admiration for one higher than himself dwells in the breast of man.'⁶⁶ Ross's reference to hero-worship then implies that his uncle was a Hero who, regretfully, was not afforded the 'transcendent admiration' which he was due as a result of 'losing himself' in the pursuit of 'honour' for his scientific work. Utilising his uncle's narrative to foreshadow the national neglect of his own selfless dedication to science, Ross then implies his self-fashioning as a Carlylean Hero.

⁶³ Ibid., p. 6.

⁶⁴ Ibid., p. 6.

⁶⁵ Malcolm Watson, 'Ronald Ross Commemorative Meeting', *Proceedings of the Fourth International Congresses on Tropical Medicine and Malaria*, 1 (May 1948), 61-75 (p. 61).

⁶⁶ Thomas Carlyle, *On Heroes, Hero-Worship, and the Heroic in History* (London: Wiley and Putnam, 1846), p. 10.

The death of Ross's brother-in-law, George Thomas, offers another opportunity to highlight the neglect of scientific research which, Ross argues, leads to unnecessary fatalities. His brother-in-law boasts an impressive list of accolades: 'head in India of the firm of Calcutta "merchant princes"', 'an extremely fine man', 'secretary of the Calcutta Gymkhana', father to 'three little boys', 'many friends', and 'kept an open table'.⁶⁷ However, this illustrious life is dramatically cut short:

[B]ut, alas! A few months later George was carried off suddenly by cholera, in the full ripeness of his manhood. What more is to be said? – except this: Two years previously the great Robert Koch had discovered the cause of cholera in this very city; but, in spite of the fact that cholera kills half a million people annually in India alone, the Indian authorities did scarcely anything to follow up the discovery for ten years.⁶⁸

Using this personal anecdote evidences the human impact of the governmental neglect of scientists, encouraging readers to have an emotive response to this neglect. Thomas's lengthy list of supposedly positive attributes provides an ideal juxtaposition to his inauspicious cholera death amongst half a million others. Ross's subsequent brief rhetorical question hints at the untold sadness at the loss of an intelligent, family-oriented, and caring man. However, Ross then claims that more can be said about Thomas's death by referring to German physician and microbiologist, Robert Koch (1843-1910), the 'discoverer of the tuberculosis and the cholera bacilli and an enthusiastic "microbe hunter" in Germany's colonies'.⁶⁹ Ross argues that Koch and his research went entirely unrecognised by the Indian Government, leading to needless deaths. Ross's use of 'this very city' makes clear his frustration about Thomas's proximity to safety, if only the Indian governing bodies had taken notice of Koch's hard-won discovery.

⁶⁷ Ross, *Memoirs*, p. 77.

⁶⁸ *Ibid.*, p. 64.

⁶⁹ Laura Otis, *Membranes: Metaphors of Invasion in Nineteenth-Century Literature, Science and Politics* (Baltimore: John Hopkins University Press, 2000), p. 10.

Due to friend and fellow physician-writer Arthur Conan Doyle's article on Koch in 1890, there were already rumours that the German microbiologist had 'aged years in [...] six months, and that his lined face and dry yellow skin [were] direct results of the germ-laden atmosphere in which he so fearlessly lived'.⁷⁰ Koch then had already been established as a suffering scientist. In *Memoirs*, Ross adds to this persona by establishing Koch as a fellow neglected suffering scientist by claiming that his work has gone unrecognised:

Yet sixteen years had elapsed since [...] Koch had discovered the cause of cholera. Unfortunately certain "eminent scientists" would not believe him, and one of these was the official investigator of the Indian Government. [...] [T]hus it was that India neglected Koch's discovery all those years. [...] During the sixteen years' neglect of Koch's discovery about eight million Indians had died of cholera.⁷¹

According to Ross, Koch's suffering with its eventual triumph was unacknowledged in India, leading to millions of cholera-related deaths. Ross's bitter tone is made explicit with the use of quotations around the term 'eminent scientists'. His reference to the shocking mortality rate, which could have been prevented, is symptomatic of a broader trend in *Memoirs* of citing huge numbers of deaths as a result of the neglect of science. Indeed, when discussing his malaria discovery he apologises to the reader: malaria 'has been estimated to cause (the reader is doubtless weary of hearing it!) about 1,300,000 deaths every year in India alone'.⁷² Ross goes on to remark that 'even the great bacteriological discoveries of [...] Koch were scarcely recognised, or were ridiculed', suggesting that Koch's research was perhaps even more important to the health of India than his own, yet it was still ignored.⁷³ Thus, Ross firmly establishes Koch as a neglected suffering scientist.

Later in *Memoirs*, Ross uses how Koch was treated by the German Government to suggest how Britain could have treated him after his malaria discovery. He notes that,

⁷⁰ Arthur Conan Doyle, 'Dr Koch and His Cure', *Review of Reviews*, 2 (12) (1890), 552-556 (p. 556).

⁷¹ Ross, *Memoirs*, p. 185.

⁷² *Ibid.*, pp. 314-5.

⁷³ Ross, *Memoirs*, p. 126.

unlike the Indian Government, Germany immediately made Koch ‘independent with a large pecuniary reward and a good appointment, so that he was able to devote himself in future to any line of work in which he saw the best promise of success’.⁷⁴ The German Government’s acknowledgement of Koch’s suffering for science enables him to religiously ‘devote’ himself to his cause without interference, supposedly guaranteeing further success. Ross then compares Koch’s treatment by the German Government to his treatment by Britain:

[I]nstead of using me for the large sanitary schemes as I desired, my countrymen offered me only three minor occupations – to teach students, to dissect parasites, or to prescribe pills. The British are a practical people; they seldom actually kill the goose that lays the golden eggs; they force her to lay goose’s eggs! [...] Therefore, as little value seemed to be set upon my golden egg, I determined to take a rest and join the happy throng cackling on the common.⁷⁵

Ross’s ‘desire’ to further improve medico-scientific knowledge has been denied. He uses belittling synecdoches to undermine three prestigious roles: a university professor, a scientific researcher in Britain, and a practising doctor. He sarcastically uses the fable of the goose with the golden egg as a metaphor in order to imply that non-scientists are lesser beings incapable of producing similarly novel, world-altering research. Instead, according to Ross, most members of society can be found indistinctly ‘cackling on the common’, and Ross is forced to do the same because of the neglect of his work.

One of the closing anecdotes of Ross’s *Memoirs* recounts the unfortunate death of the United States Army physician Walter Reed (1851-1902). Reed was the head of a group of scientists, called the Reed Commission, who were attempting to identify the cause of Yellow Fever in Cuba. Ross quotes a passage of a letter from Reed to his wife, where Reed gushes that ‘[t]he prayer that has been [his] for twenty years, that [he] might be permitted in some way or at some time to do something to alleviate human suffering has been

⁷⁴ Ibid., p. 467.

⁷⁵ Ibid., p. 468.

granted!’⁷⁶ Reed’s understanding of duty and vocation is clear, a key trait in Ross’s fashioning of the medico-scientific researcher throughout *Memoirs*. Ross then bitterly reports that when Reed died

the wealthy American people allowed him to do so without any adequate honours or reward, and actually in a state of apprehension regarding the future of his wife and daughter. This was not only a case of ingratitude, but one of impolicy. If the world refuses to pay for world-service [...], it is the world that suffers – for its own folly.⁷⁷

Ross reveals the injustice of Reed dying for knowledge without any acknowledgement of his heroism. He suggests that, by not publicly recognising Reed, Americans have disregarded his sacrifice for them. Out of the four men that constituted the Reed Commission (Walter Reed, Aristides Agramónite, James Carroll, and Jesse Lazear), two died after infecting themselves with yellow fever to further their scientific research.⁷⁸ In contrast to Ross’s presentation of Reed’s posthumous memorialisation, Reed was in fact well celebrated after his untimely death. Herzig notes that Reed was ‘the beloved subject of dozens of sculptures, paintings, and articles’ and would eventually become ‘the namesake of the most prestigious army hospital in the United States, wherein American presidents often still receive medical treatment’.⁷⁹ However, just as Ross felt that his membership to the Royal Society, Nobel Prize for Medicine, and knighthood were inadequate, by ignoring Reed’s acknowledgements, Ross implies that they too were insufficient.

The anecdotes about the lives of his relations, as well as those of contemporaneous scientists Koch and Reed, give further credence to the notion that suffering scientists have been neglected. These reminiscences enable Ross to confirm the need for *Memoirs*, which

⁷⁶ Ross, *Memoirs*, p. 426.

⁷⁷ *Ibid.*, p. 426.

⁷⁸ Herzig, p. 3.

⁷⁹ *Ibid.*, p. 2.

clearly attempts to alter the identity of the medico-scientific researcher, while also seeking to empower and enhance Ross's own tale of unacknowledged suffering for science.

Ross's Account of Suffering for Science

Ross's reluctance to develop a medical or scientific career is evident from an early age, according to *Memoirs*. For example, he was involved in an altercation with his father when deciding on a suitable profession:

My age was now seventeen years, and it was time for me to choose a profession. I wished to be an artist, but my father was opposed to this. [...] [M]y father had set his heart upon my joining the medical profession, and finally the Indian Medical Service, which was then well paid and possessed many good appointments [...] I resigned myself to this scheme, [...]. But I had no predilection at all for medicine, and, like most youths, felt disposed to look down upon it. [...] I was not happy that day.⁸⁰

The reader witnesses Ross's hesitancy to join a profession that he believed was beneath him. As mentioned in the introduction to this thesis, during the latter half of the nineteenth century medics were struggling to establish themselves as middle-class professionals. Until the Medical Act of 1858, a year after Ross was born, medics were not required by law to have any particular qualifications, making it easy for incompetent people to 'simply [hang] out their shingles when they felt adequately trained'.⁸¹ In part because of this lack of training, 'contempt for organised medicine was commonplace'.⁸² Ross's short closing understatement ('I was not happy that day'), underlines his self-denial in joining the medical profession. Contemporaneous disregard for medics is made clear while, during his studies at St Bartholomew's, Ross made a visit to his cousin: 'Alan was about to enter the

⁸⁰ Ross, *Memoirs*, p. 29.

⁸¹ Pamela K. Gilbert, *Cholera and Nation: Doctoring the Social Body in Victorian England* (Albany: State University of New York Press, 2008), p. 69.

⁸² Michael Durey, 'Medical Elites, the General Practitioner and Patient Power in Britain during the Cholera Epidemic of 1831-32', *Metropolis and Province* ed. by Ian Inkster and Jack Morrell (London: Hutchinson, 1983), 257-276 (p. 258).

Army through the Meath Militia, and looked very fine in his new uniform and chaffed me for being “a mere doctor”.⁸³ Thus, from the opening of *Memoirs*, Ross makes clear his unhappy attempts at self-denial in pursuit of a medical career.

A reluctant sense of duty to work as part of the medical profession is also evident in the autobiographical works of Galton and Cajal. In *Memories of My Life*, Galton explains that he pursued a career in medicine only because ‘it was strongly desired by both my parents’.⁸⁴ Throughout his autobiography, Galton references his medical career as a duty on three occasions.⁸⁵ In a similar way, Cajal writes that, due to his parents’ dislike of his artistic tendencies, ‘it was decided [...] that I should renounce my madness over drawing and prepare myself to follow a medical career. [...] Thus there began between my parents and me a silent war of duty against desire’.⁸⁶ As in the cases of Galton and Cajal, Ross’s positioning as a self-denying young man forced to pursue a lowly profession held in disdain by his contemporaries, enables his later suffering for science to become all the more poignant for the reader. In this aspect then, as with the discussion of ancestry, *Memoirs* does not differ greatly from other scientific autobiographies: Ross understands from an early stage that self-denial is a key aspect of his medico-scientific career. The next section explores how Ross builds on a tradition of scientific life writing by deploying a melange of imagery to convey an emotionful ‘dying-to-know’ narrative, presenting himself as a neglected suffering scientist.

Arthurian Imagery

In her discussion of Arthurian archetypes and motifs in the writings of *fin-de-siècle* parasitologists, which she defines as ‘knights of science’ rhetoric, Emilie Taylor-Brown

⁸³ Ross, *Memoirs*, p. 34.

⁸⁴ Francis Galton, *Memories of My Life* (London: Methuen & Co., 1908), p. 22.

⁸⁵ *Ibid.*, p. 29, p. 30, p. 57.

⁸⁶ Cajal, p. 41.

comments that ‘[t]he quest motif is one that characterised the parasitology narrative’.⁸⁷

Indeed, it seems this quest motif is evident in the reproduction of a letter of encouragement in Ross’s *Memoirs* dated 21 June 1895. On missing a letter from Ross, Manson writes:

I was terribly disappointed for I thought you had [...] given up the quest. Above all don’t give up. Look on it as a Holy Grail and yourself as Sir Galahad and never give up the search, for be assured you are on the right track.⁸⁸

Manson uses an extended metaphor to encourage Ross to imagine himself as a gallant knight, with his scientific research an epic journey culminating in the acquisition of precious treasure. By reprinting the correspondence between Ross and Manson, Ross seemingly encourages the general public’s internalisation of the ‘knights of science’ rhetoric, as coined by Taylor-Brown. However, allusions to ‘knights of science’ rhetoric only appear once more in the autobiography. Two years into Ross’s malaria research, in 1897, he summarises a letter to Manson and writes that ‘there was one method of solution, that of incessant trial and exclusion. But this meant enormous labour – and I had already spent two years over the quest’.⁸⁹ Since this mention of a quest is in reference to a reply to Manson, it simply appears as an extension of Manson’s metaphor, rather than Ross’s way of characterising his narrative of scientific discovery. Taylor-Brown notes that ‘knights of science’ rhetoric was a ‘heroic persona [...] [which] served to romanticise parasitology by grounding it in literary history’.⁹⁰ The outcome of extensively using ‘knights of science’ rhetoric (romanticising scientific research) is precisely the reason Ross almost wholly rejects its use in *Memoirs*. Indeed, the growing distaste for ‘knights of science’ rhetoric is apparent in *Science Progress*, examined in Chapter Four of this thesis. As mentioned previously, Ross’s aim for *Memoirs* was to uncover the neglect of those suffering for

⁸⁷ Emilie Taylor-Brown, ‘(Re)Constructing the Knights of Science: Parasitologists and their Literary Imaginations’, *Journal of Literature and Science*, 7 (2) (2014), 62-79 (p. 67).

⁸⁸ Ross, *Memoirs*, p. 153.

⁸⁹ *Ibid.*, p. 211.

⁹⁰ Taylor-Brown, ‘(Re)Constructing’, p. 63.

science, not to romanticise the struggle. Furthermore, as Inga Bryden explains, the 1890s onwards saw a decline in the use of the Arthurian legends: ‘the fin-de-siècle more clearly abandons the use of Arthurianism as a mode of discussing national, religious and domestic identities.’⁹¹ In her assessment of earlier works of parasitologists, Taylor-Brown claims that ‘knights of science’ rhetoric ‘performed multiple functions, including the legitimising of western medical authority, the characterisation of tropical medicine as a prerogative of the nation, and the encouraging of medical students to specialise in this form of training.’⁹² In *Memoirs*, Ross moves away from some of the rhetorical aspects of Arthurian tropes, in particular the romanticisation of scientific research and turns to imagery of religiosity, war, and piracy.

Imagery of Religiosity

Memoirs combines imagery of religiosity, war, and piracy to expose the neglect of the suffering hero, challenging the banishment of the self that appears evident in some ‘records of results’ narratives, in order to persuade readers of the value of medico-scientific researchers. Ross’s consistent use of religious imagery to discuss the medico-scientific work conducted by himself and others stems from a history of science being imagined as a new form of Christianity. Ross then casts himself as a part of a second generation of scientific naturalists by including this rhetoric.⁹³ In DeWitt’s examination of novelists’ response to nineteenth-century men of science, she notes the use of religious language by scientific naturalists:

scientific naturalism sought to interpret nature and society in purely secular terms, eliminating supernatural causes and putting in their stead such principles as

⁹¹ Inga Bryden, *Reinventing King Arthur: The Arthurian Legends in Victorian Culture* (Burlington: Ashgate, 2005) pp. 2-3.

⁹² Taylor-Brown, ‘(Re)Constructing’, p. 63.

⁹³ Bernard Lightman and Gowan Dawson, *Victorian Scientific Naturalism: Community, Identity, Continuity* (Chicago: Chicago University Press, 2014), p. 20.

Darwin's theory of evolution, the uniformity of natural law, and the doctrine of energy conservation. [...] [Scientists] were attempting to put science in religion's place not only as an account of the natural world, but as a cultural authority, a source of values intellectual, moral and spiritual. That is, in replacing religion with science they were turning science into a religion.⁹⁴

From Ross's *Memoirs* it is already clear that he has been attempting to align himself with Darwin's theory of evolution, evident in this chapter's earlier discussion of his detailed fourteen-page ancestry. Indeed, as evidenced by Chapter Two of this thesis, Ross's novel *The Child of Ocean* (1889), can be read as Darwinian propaganda. Ross identifies science as religion throughout *Memoirs*, providing further clarity on his self-fashioning as a second-generation scientific naturalist. Ross also deploys religious imagery, once used to bolster the status of science as a profession, in order to stress the unjustified suffering of the heroic medico-scientific researcher.

The earlier use of religious imagery, deployed to bolster the cause of scientific naturalists, is clear in Ross's encounter with the work of the pioneer of antiseptics, Joseph Lister (1827-1912). Ross describes how, working as an 'unqualified Assistant House Surgeon at Shrewsbury Infirmary' during his medical studies, a Welsh physician came to the hospital in which he was training and put into practice Lister's discovery of carbolic acid:

Previously to his arrival patients suffered much pain in their wounds after operation, and I was almost always ordered to give morphia injections, while many cases went wrong and wounds healed slowly. Carbolic acid (we used spray in those days), cleanliness, and carbolised gauze dressing wrought a *miracle* – no morphia, and healing by "first intention".⁹⁵

Ross describes this new intervention as a miracle, defined as an 'event not ascribable to human power or the operation of any natural force'.⁹⁶ Lindsey Fitzharris explains that

⁹⁴ DeWitt, p. 33.

⁹⁵ Ross, *Memoirs*, p. 35. Emphasis mine.

⁹⁶ 'Miracle, n.' in *The Oxford English Dictionary* [online], URL: <http://www.oed.com/view/Entry/119052?rskey=Zdoj0h&result=1&isAdvanced=false> [Accessed: 2 November 2017].

“‘first intention,’ [was] a term used by surgeons to denote the reuniting of the two sides with minimal inflammation and suppuration (formation of pus). Put simply, the wound healed cleanly’.⁹⁷ The sudden appearance of antiseptic surgery is figured as miraculous; implying that Lister is a kind of medico-scientific saint. Unlike suffering hero anecdotes regularly relayed in *Memoirs*, here Ross does not emphasise the difficult research that culminated in Lister’s discovery. Instead, this anecdote seems to convey the issues with the ‘records of results’ narrative: the young, unqualified assistant learns a new strategy for post-surgery recovery and is ordered to implement it without any knowledge of the toil necessary to come to the discovery, making the results appear miraculous. However, Ross’s subsequent experience of medico-scientific research affords him the opportunity to debunk the notion of miraculous cures in *Memoirs*.

In his first references to mosquitoes, Ross creates a microcosm of later events surrounding his scientific discovery, illustrating how he imagines his research, the public reaction to the research, and his subsequent feelings:

I messed at first with the 4th Madras Pioneers, [...] and lived with the adjutant. That was the first time that I became interested in mosquitoes. They devoured me in our bungalow until I discovered that they were breeding in a tub just outside my window, when I rid myself of nearly all of them simply by upsetting the tub. When I told the adjutant of this miracle, however, [...] much to my surprise he was very scornful and refused to allow me to deal with them; for, he said, it would be upsetting the order of nature, and, as mosquitoes are created for some purpose it was our duty to bear with them! I argued in vain that the same thesis would apply to bugs and fleas, and that according to him it was our duty to go about in a verminous condition! I did not know then that this type of fool is very common indeed, and I suffered much (not gladly) from the type later on.⁹⁸

The juxtaposition of Ross being ‘devoured’ by mosquitoes with him ‘simply’ upsetting the tub ensures that the ease with which this irritating dilemma can be solved is stressed. Ross again chooses to explain a scientific discovery as a ‘miracle’. What Ross implies (rather

⁹⁷ Lindsey Fitzharris, *The Butchering Art: Joseph Lister’s Quest to Transform the World of Victorian Medicine* (New York: Farrer, Straus and Giroux, 2017), p. 120.

⁹⁸ Ross, *Memoirs*, p. 58.

sarcastically) with this religious imagery is that this miracle is in fact the result of basic scientific reasoning, which can easily be applied systematically. The response of the adjutant foreshadows the disrespect and lack of acknowledgment from the British Government to Ross's research. At the close of this passage, Ross's rational argumentation using *reductio ad absurdum* fails, leaving him feeling bitter and dejected. In the self-construction of the scientist here, the suffering lies not within the scientific work, which Ross is more than willing to do and finds simple, but in the negative response of the adjutant. Ross demonstrates to the lay reader that the battle is not with science, which he can easily perform, but with the ignorance of bureaucrats.

Ross also draws upon religious imagery to attempt an explanation for his belief in specific scientific theories, a trope also utilised by his forebears and contemporaries. Writing his *Autobiography* (1889), first-generation scientific naturalist Huxley describes his attempts to get a scientific paper published while working for the Navy:

I sent home communication after communication to the "Linnean Society," with the same result as that obtained by Noah when he sent the raven out of his ark. Tired at last of hearing nothing about them, I determined to do or die, and, in 1849, I drew up a more elaborate paper and forwarded it to the Royal Society. This was my dove, if I had only known it.⁹⁹

Huxley aligns himself with the biblical Noah, a prophet given special knowledge from God. Huxley sends out his metaphorical raven (a simplistic paper he wishes to present to the Linnean Society) but receives no news. However, he then sends his dove (a more extensive paper) to the prestigious Royal Society. When the paper is accepted by the Royal Society it is figured as the dove returning the olive branch to Noah. Later in his autobiography, Huxley claims that he will accept his contribution to the 'movement of

⁹⁹ Thomas Henry Huxley, 'Autobiography', *Charles Darwin Thomas Henry Huxley: Autobiographies*, ed. by Gavin de Beer (London: Oxford University Press, 1974), pp. 100-110 (p. 107).

opinion which has been called the New Reformation' as his primary success in life.¹⁰⁰

Matthew Stanley explains the founding of this 'New Reformation':

The naturalists made the case that this kind of religion (Science) was not their invention, but was rather the true religion that had been disguised by centuries of clergy. [...] In particular, their religion's purity was opposed to the corruption of the Anglican Church. They saw their attacks as part of a "New Reformation" intended to restore that pure Christianity. [...] Huxley used religious symbols and language as a strategy to "sanctify his own reformism" despite his attacks on theological tradition.¹⁰¹

With this conceptualisation of science as 'pure Christianity' then, biblical imagery became a rhetorical trope in scientific self-fashioning.

A year after Huxley's autobiography was written, in Doyle's short story 'A Physiologist's Wife' (1890) the unfeeling physiologist, Professor Ainslie Grey, is accused of a lack of religious belief by his sister. He replies: "I have faith in those great evolutionary forces which are leading the human race to some unknown but elevated goal. [...] I believe in the differentiation of protoplasm."¹⁰² Douglas Kerr notes that Grey's characterisation links him to eminent nineteenth-century scientists: Grey's links to Darwin, Huxley, and Spencer, highlight his status as 'a specialist mark[ing] him as modern indeed, and highly evolved'.¹⁰³ Grey epitomises the *fin-de-siècle* scientist. His use of religious terminology ('I have faith in' and 'I believe in') links him to these prominent men of science and bolsters his reputation as, first and foremost, a proud man of science. Doyle also infuses his biographical article on Koch, mentioned earlier, with religious imagery: Doyle sees him as one of his 'scientific brethren' or 'a Veiled Prophet' conducting an 'all-important mission to which he has devoted himself' in his 'private sanctum'.¹⁰⁴ Koch is

¹⁰⁰ Ibid., p. 109.

¹⁰¹ Matthew Stanley, *Huxley's Church and Maxwell's Demon: Science to Naturalistic Science* (Chicago: University of Chicago Press, 2014), p. 26.

¹⁰² Arthur Conan Doyle, 'A Physiologist's Wife', *Round the Red Lamp: Arthur Conan Doyle* ed. by Robert Darby (Kansas City: Valencourt Books, 2007), 77-98 (p. 80).

¹⁰³ Douglas Kerr, *Arthur Conan Doyle: Writing, Profession, and Practice* (Oxford: Oxford University Press, 2013), p. 54.

¹⁰⁴ Doyle, 'Dr Koch and His Cure', p. 552.

attempting to uncover the cholera-bacilli, which is a ‘terrible scourge’ similar to ‘one of the plagues of Egypt’.¹⁰⁵ With this religious imagery Doyle highlights Koch’s religious-like dedication to the pursuit of medico-scientific knowledge. Similar to Huxley and Doyle, Ross utilises religious imagery in order to ‘sanctify’ or legitimise his reputation and the reputation of all scientists furthering knowledge to aid humanity.

While discussing the physician Charles Laveran (1845-1922), Ross claims that he ‘became an enthusiastic convert to “Laveranity” (the belief that malaria parasites were in the blood stream) when it was demonstrated to him by Manson in 1894 during a period of home leave’.¹⁰⁶ Noting his respect for the work of Laveran, Ross writes that he is ‘a convert, like St. Paul, [...] a militant apostle.’¹⁰⁷ In a letter to Manson about the inadequate training of medics, Ross complains:

Now is not the apathy of the heads of the department quite monstrous? [...] Why don’t they support proper microscopes and make their men work at the subject? Why don’t they teach it in medical schools? In districts where fever is prevalent why don’t they have the fever investigated by the microscope? [...] [Q]ualified men should be sent round the country to teach – Laveranity apostles.¹⁰⁸

These multiple rhetorical questions along with Ross’s use of anaphora emphasises his extreme frustration. The answer to this list of uncertainties is a devoted group of ‘apostles’, educated in ‘Laveranity’: this branch of (in Stanley’s words) ‘pure Christianity’ will solve the sinful lack of work by scientific authorities. Twice Ross explains that he ‘preached Laveranity’, and on another occasion boasts that an acquaintance ‘was now converted to Laveranity’.¹⁰⁹ As mentioned earlier, Taylor-Brown notes that Arthurian tropes aid in the encouragement ‘of medical students to specialise in this form of training [i.e. parasitology]’.¹¹⁰ As with Arthurian tropes, here it appears that religious imagery was a

¹⁰⁵ Ibid, pp. 552-554.

¹⁰⁶ Liverpool School of Tropical Medicine, ‘Sir Ronald Ross (1857-1932)’, URL: <https://www.lshtm.ac.uk/aboutus/introducing/history/frieze/sir-ronald-ross> [Accessed: 5 November 2017].

¹⁰⁷ Ross, *Memoirs*, p. 178.

¹⁰⁸ Ibid., p. 177.

¹⁰⁹ Ross, *Memoirs*, p. 191, p. 254, p. 354.

¹¹⁰ Taylor-Brown, ‘(Re)Constructing’, p. 63.

tool in the recruitment of new parasitologists. Further, Ross uses the term ‘apostles’ to signify a group of men, educated by their prophet in order to gain ‘expert knowledge’, attempting to ‘convert’ those without expert knowledge.

Ross also describes himself as a prophet; once after a breakthrough in his research, when he suggests that colleagues ‘now take [him] for a prophet’, and later after re-reading poems that he penned before his research: ‘This was, I think, the first time I had ever read them since they were written; and I now thought myself a prophet!’¹¹¹ DeWitt’s assertion then, that critics of the first generation of scientific naturalists believed that religious imagery went ‘hand-in-hand with the objective of establishing a scientific elite’ appears evident in Ross’s writing, linking him and his contemporaries with the earlier generation of scientific naturalists.¹¹² In the majority of instances, Ross ensures that his religious imagery encapsulates the notion of learnt knowledge and the passing of that knowledge from a select group of learned men onto laypeople. While religious imagery is used in *Memoirs* to denote loyalty to science and to those scientists that came before Ross, imagery of war is used to stress intense struggle towards success.

Imagery of War

Michael Brown explains that Victorian surgeons were ‘frequently oscillating between religious and warlike imagery’ in their self-fashioning.¹¹³ While the previous section of this chapter argues that Ross, in his 1923 reflection on his nineteenth-century medico-scientific research, deploys religious imagery to denote his devotion to particular scientists, this section examines what ‘kinds of cultural work’ warlike imagery was ‘being made to perform’ within *Memoirs*.¹¹⁴ In *Membranes*, Otis identifies the motif of war in the works of

¹¹¹ Ross, *Memoirs*, p. 167, p. 493.

¹¹² DeWitt, p. 51.

¹¹³ Michael Brown, “‘Like a Devoted Army’: Medicine, Heroic Masculinity, and the Military Paradigm in Victorian Britain”, *Journal of British Studies*, 49 (3) (July 2010), 592-622 (p. 597).

¹¹⁴ *Ibid.*, p. 595.

a multitude of Ross's prominent contemporaries. Koch, Mitchell, Doyle, and Cajal all utilise war imagery in their writings. These works show just how pervasive war metaphors were for both nineteenth-century surgeons and scientific researchers. Indeed, Otis points out that scientists were in fact replacing soldiers as national heroes:

In 1907, introducing Koch at a scientific meeting, Andrew Carnegie reported that the French now named Pasteur as the greatest Frenchman who had ever lived; in the past it had been Napoleon. In the microbial age, scientists assumed the heroic role of soldiers, the creators and the defenders of empires.¹¹⁵

References pertaining to war are frequent in Ross's description of his scientific research, likely because, as noted earlier, it was around the time of the First World War that Ross began to write his *Memoirs*.¹¹⁶ Indeed, in *Science Progress*, examined in Chapter Four of this thesis, it is clear to see the increasing frequency with which Ross uses militaristic terms before and during the First World War and in the years leading up to the publication of *Memoirs*. Ross utilises this imagery when discussing the exploitation of the suffering hero, in order that he might bring to light the battle towards scientific discovery, rather than simply providing 'records of results' or suggesting that he was lucky to have a 'fortuitous scientific accident'.¹¹⁷

During the First World War Ross's primary medico-scientific role was as a consultant on malaria for the War Office.¹¹⁸ Both Ross's younger brother, Charles, a member of the British Army, and Ross's son, Campbell, a member of the Royal Scots, fought in the war. Charles, a Major General, retired in 1915, and wrote articles about warfare for *Science Progress*.¹¹⁹ Unfortunately, Ross's nineteen-year-old son was 'killed within the first few weeks of war on 26 August at Audencourt during the retreat from

¹¹⁵ Otis, *Membranes*, p. 28.

¹¹⁶ Gibson and Nye, p. 214.

¹¹⁷ Ross, *Memoirs*, p. vi. Herzig, *Suffering*, p. 7.

¹¹⁸ Ross, *Memoirs*, p. 23.

¹¹⁹ See Charles Ross, 'Scientific National Defence', *Science Progress*, 8 (29) (July 1913), pp. 122-132. Charles Ross, 'War – A Plea for Scientific Research', *Science Progress*, 14 (53) (April 1919), pp. 659-665.

Mons. Initially he was posted “missing” and it was nearly two years before his family knew what had become of him’.¹²⁰ War imagery then held great emotional resonance for Ross when writing *Memoirs*, and most likely also for his contemporaneous readership. Throughout his autobiography, Ross uses phrases such as ‘the Great Problem!’, ‘the last stage of the great battle’, and ‘another great advance’ when discussing his research.¹²¹ This particular phrasing uses connotations of the word ‘great’ to parallel Ross’s research with The Great War, implicitly demonstrating Ross’s position as a scientist soldier battling against a multitude of foes for acknowledgement.¹²²

As mentioned earlier, Ross and Grassi very publicly fought over scientific priority of the discovery of the malarial parasite. Referring to his actions during this disagreement, Ross comments that he ‘determined to carry the war into the enemy’s country, and a short article by [him] in Italian [...] appeared in the *Policlinico* of Rome’.¹²³ Later Ross explains to the lay reader that ‘[t]he Italian affair was only the beginning of a long series of attacks – from which all sanitary workers seem fated to suffer’.¹²⁴ This militaristic language and imagery presents Ross as a soldier scientist, battling for priority against fellow scientists who wish to establish their claim to priority. In letters to Manson, his mentor, Ross uses a war metaphor, writing that he has ‘seized the final position, [but] [...] not yet occupied it with [his] full forces’.¹²⁵ In this instance then, the reference to war highlights Ross’s self-construction as a national hero suffering for science on behalf of the British Empire.

In letters reprinted in *Memoirs* Ross’s mentor, Manson, identifies Ross as a national hero using militaristic language. On 27 July 1897, Manson sent Ross a copy of a letter that

¹²⁰ Gibson and Nye, *Ronald*, p. 7.

¹²¹ Ross, *Memoirs*, p. 125., p. 291., p. 293.

¹²² The *Oxford English Dictionary* identifies the term ‘Great War’ as having first been used in relation to the French Revolution and Napoleonic Wars (1792-1815). The term was then used in the British press from 1914 onwards in their discussion of the First World War. Historian Seán Lang explains that “‘Great War’ was the most commonly used name for the First World War at the time’ emphasising both the scale of the war and the ‘moral connotations’ as it ‘carried echoes of Armageddon, the biblical Great Battle of Good and Evil’.

¹²³ *Ibid.*, p. 411.

¹²⁴ *Ibid.*, p. 413.

¹²⁵ *Ibid.*, p. 297.

he had written to Charles Crosthwaite (1835-1913), the man who ran the India Office in London at the time, suggesting that Ross's scientific research should be encouraged by the IMS through the granting of special duty in order to continue his work. Manson writes:

To our national shame be it said that few, very few of the wonderful advances in the science of the healing art which have signalised recent years have been made by our countrymen. This is particularly apparent in the matter of tropical diseases in which we should in virtue of our exceptional opportunities, be *facile princeps*. But even in tropical diseases Frenchmen, Italians, Germans, Americans, and even Japanese are shooting ahead of us. We, have to get a Koch to find for us the cholera germ, and a Haffkine to protect us from it, a Laveran to teach us what malaria is, a Kitasato to show us the germ of plague and a Yersin or a Haffkine to cure us of its effects.... But in this matter of malaria here is a chance for an Englishman to rehabilitate our national character and to point out to the rest of the world how to deal with the most important disease in the world – malaria.¹²⁶

In this letter, Manson attempts to make Ross's work appealing to the British Government and their colonial interests. Bradley Deane explains that New Imperialists 'made expansion a goal of empire rather than just its means', turning 'the professed proselytizer of the world, the British conqueror', into a 'bureaucrat'.¹²⁷ In response to the development of bureaucratic figures, such as Crosthwaite, 'who quietly effected their bluntly pragmatic ends', came 'compensatory images of individual heroism'.¹²⁸ While Deane establishes one of these compensatory images as the 'boy who would never grow up', it appears in this letter that Manson suggests the image of the scientist.¹²⁹ Manson's letter then is an appeal to the bureaucrat figure to request the endorsement of a new national hero: Ross. In other words, Manson identifies the medico-scientific researcher as a candidate for narratives of 'individual heroism'. Manson figures the advances of science as a war for imperial superiority that Britain is losing. Despite being one of the most expansive empires Manson claims other countries are 'shooting' before the British. Manson's demand is that the

¹²⁶ Ross, *Memoirs*, p. 217.

¹²⁷ Bradley Deane, *Masculinity and the New Imperialism: Rewriting Manhood in British Popular Literature, 1870–1914* (Cambridge: Cambridge University Press, 2014), p. 86.

¹²⁸ *Ibid.*, pp. 86-87.

¹²⁹ *Ibid.*, p. 87.

British recruit their own scientific forces because of their potential to create these narratives of ‘individual heroism’ for the empire. More particularly than that, Manson urges that they endorse and encourage their best scientist soldier, Ross, since he is in pursuit of the ‘most important’ disease. Alan Bewell notes that ‘throughout the nineteenth century, only cholera competed with malaria for the title of “tropical disease” par excellence’: uncovering how malaria spread, allowing the British to overcome it in the colonies, would be a great advantage to the imperial cause.¹³⁰

Two years on from Manson’s letter, in a speech given by Joseph Chamberlain (1836-1914), Secretary of State for the Colonies from 1895 to 1903, at the LSHTM, Chamberlain declares:

The man who shall successfully grapple with this foe [malaria] to humanity, and find a cure for the fevers depleting our colonies and dependencies in many tropical countries, and shall make the tropics liveable for white men, who shall reduce the risk of disease to something like the ordinary average, that man will do more for the world, more for the British Empire, than the man who adds a new province to the wide dominions of the Queen.¹³¹

It seems then by this time that bureaucrats endorsed the notion that medico-scientific researchers have this potential for ‘individual heroism’ and something equivalent to territorial acquisition in their cures for tropical diseases. As mentioned earlier, Otis explains that ‘[d]octors [...] became analogous to soldiers, defending the empire against its tiny enemies [parasites]’ and Ross gleefully accepts this honour by reprinting this excerpt in his autobiography.¹³² Ross’s construction by prominent colleagues and political advocates as akin to a heroic soldier is a persona he is willing to embrace in *Memoirs*, as it emphasises his bravery, intelligence, and utility as a result of defeating the British Empire’s most problematic disease. By alluding to himself in this way, Ross seemingly

¹³⁰ Alan Bewell, *Romanticism and Colonial Disease* (Baltimore: John Hopkins University Press, 2003), p. 244.

¹³¹ Ross, *Memoirs*, p. 434.

¹³² Otis, *Membranes*, p. 32.

identifies an opportunity for medico-scientific researchers to claim their discoveries as spoils of ‘individual heroism’ for the empire. Unlike religious imagery then, which denotes devotion to specific scientists or scientific theories, militaristic imagery does the ‘cultural work’ of fashioning medico-scientific researchers as integral tools for global triumph. To some extent, war imagery also allows Ross to vilify his enemies, as evidenced with his comments about Grassi. This use of war imagery enables Ross to cast Grassi not merely as a colleague with whom he is bickering over priority, but as a threatening enemy of the British Empire.

Ross uses a military metaphor to chastise all elite men of science, highlighting tensions between amateur and professional scientists:

Really [elite men of science] have forgotten what was their true vocation – to stay at home and draw maps after the event, [...] to put their own names to the continents and islands, and to draw their salaries – a much more pleasant occupation.¹³³

Ross then positions himself apart from these elite men of science, despite that, by this time, his credentials establish him as one of these men, since he was a Professor of Tropical Medicine, had a knighthood, a Nobel Prize, and was a member of the Royal Society. Ross’s self-fashioning as a neglected suffering hero is particularly evident when this passage is compared with a closing remark regarding his scientist uncle, where he claims that ‘nearly all the ideas in science are provided by amateurs, [...] the other gentlemen write the textbooks and obtain the professorships’.¹³⁴ Ross then implicitly suggests that he is facing the same disheartening experience as his scientist uncle, an amateur chemist, who unsuccessfully attempted to gain ‘honour’ by ‘losing himself’ in his research. Ross utilises a military metaphor to express his disapproval of this distinction: Ross self-fashions as an insignificant amateur naval recruit, while the ‘men of science’ are contrastingly depicted as

¹³³ Ross, *Memoirs*, p. 227.

¹³⁴ *Ibid.*, p. 6.

Admirals of the scientific navy. While these men sit stationary in their homes to record and publish the results of medico-scientific research, Ross endeavours to show that intrepid suffering scientists are always acting to resolve humanity's ailments.

Imagery of Piracy

On the day of his Nobel prize-winning discovery, 20 August 1897, which he subsequently dubbed Mosquito Day, Ross writes that 'the dissection [of the mosquito] was excellent, and I went carefully through the tissues [...] searching every micron [...] as one would search some vast ruined palace for a little hidden treasure'.¹³⁵ Ross memorialises the most important day of his career with a treasure metaphor. While it could be argued that this image links Ross to the 'knights of science' rhetoric, as established by Taylor-Brown, this section establishes this metaphor as part of a wider constellation of images related to piracy. This link can be established because, in contrast to Ross's careful search for treasure, he declares competing scientists 'a gang of sordid adventurers' or 'pirates' and claims that his *Memoirs* will 'reconstruct the crime' in detail, in order to 'expose some of the artifices of piracy'.¹³⁶ Evident in Ross's *Memoirs* then is that '[e]very empire produces its own pirates, redefining the criminals of the sea in order to assert, by contrast, the legitimacy of its own overseas adventures'.¹³⁷ In *Memoirs*, a narrative of medico-scientific toil for the success of the British Empire, Ross brands himself the soldier and Grassi is cast as the pirate.

In Deane's examination of Victorian children's pirate adventure stories, he notes that '[i]n mid-century fiction, pirates serve as the foils of all that is decent, Christian, and British'.¹³⁸ Deane elucidates that stories such as Charles Dickens's 'The Perils of Certain

¹³⁵ Ross, *Memoirs*, p. 224.

¹³⁶ *Ibid.*, p. 353, p. 411., p. 402.

¹³⁷ Deane, *Masculinity and the New Imperialism*, p. 91.

¹³⁸ *Ibid.*, p. 91.

English Prisoners' (1857), which 'recasts the Indian sepoy as an international gang of "barbarous Pirates"', uses 'piracy as the test by which an inherently moral British boyhood could be confirmed'.¹³⁹ Born just three days after the beginning of the Indian Mutiny, and described as a 'mutiny baby', it appears from his descriptions of Grassi that Ross internalised the notion of pirates symbolising a challenge to the British Empire.¹⁴⁰ Pirates obviously captured Ross's imagination: on his first furlough in England to begin studying malaria, he also published his debut novel *The Child of Ocean* (1889), explored in Chapter Two of this thesis, the opening gambit of which focuses on Captain Bully Hayes and his gang of pirates. The notion of piratical cruelty destroying virtuous members of the British Empire, evident in the opening chapters of *The Child of Ocean*, is mirrored in Ross's discussion of scientists attempting to claim priority of his work. By fashioning competing scientists as pirates then, Ross's piratical imagery does the cultural work of establishing Grassi as a threat to a national hero of the British Empire, and therefore as a threat to the British Empire itself.

In a similar reference to treasure, Ross emphasises his suspicion of an imminent attack by competing scientists:

[M]y storm-tost treasure-bark had now safely crossed the wide solitary ocean and was approaching harbour; but it was soon to be surrounded [...], and the pirates lay in the offing ready to board me at the proper moment!¹⁴¹

Ross describes the scientific discovery as 'my [...] treasure-bark', an alternate term for a treasure chest, emphasising his ownership of the findings.¹⁴² The reference to his journey of scientific research as a 'storm-tost [...] ocean' makes suffering prominent as an integral part of his medico-scientific research. As established, claiming that other scientists are

¹³⁹ Bradley Deane, 'Imperial Boyhood: Piracy and the Play Ethic', *Victorian Studies*, 53 (4), 2011, 689-714 (p. 695).

¹⁴⁰ Mary Gibson, 'Sir Ronald Ross and his contemporaries', *Journal of the Royal Society of Medicine*, 71 (August 1978), 611-618 (p. 612).

¹⁴¹ Ross, *Memoirs*, p. 333.

¹⁴² *Ibid.*, p. 333. Emphasis mine.

‘pirates’ indicates Ross’s urging for readers to understand that foreign scientists are only interested in their own profit, while he, the heroic medico-scientific adventurer, is working on behalf of the empire. By suggesting that the pirates’ actions to steal Ross’s glory were premeditated, Ross amplifies the notion of scientific competitors’ supposed piracy. Ross’s narrative then also departs from the accepted ‘dying-to-know’ narrative, as *Memoirs* does not suggest that morality is inherent to scientists. Neither does it adhere to the second ‘narrative sequence’ recently uncovered by DeWitt, where morality is developed through scientific research.¹⁴³ Finally, it also does not mix these two narrative sequences, as DeWitt claims Huxley and Tyndall do in an effort to show that ‘scientific work both requires and cultivates moral excellence’.¹⁴⁴ Instead, Ross explicitly identifies Grassi and other men of science here as intentionally immoral.

Referring to his resentment at the fact that after he announced his malaria discovery ‘a number of great men of science made the same discovery independently’, Ross identifies his finding as an ‘uncharted’ island of riches which only he dared to reach.¹⁴⁵ He feigns ignorance to stress his shock at ‘pirates’ who attempted to steal his scientific ‘treasure’:

I have so great a respect for [men of science] that I cannot conceive them capable of the folly of ever undertaking the gamble I was guilty of! I am sure that none of them would ever have embarked on so vast and stormy a sea, would even have been the Columbus of so wild an adventure, would ever have shown – I will not say the patience, the passion and the poetry – but the madness required to find that uncharted treasure island!¹⁴⁶

Here Ross casts himself as celebrated sailor and discoverer Christopher Columbus (1451-1506), a reference he uses multiple times in *Memoirs* in order to identify himself and his

¹⁴³ DeWitt, p. 7.

¹⁴⁴ Ibid., p. 39.

¹⁴⁵ Ross, *Memoirs*, p. 227.

¹⁴⁶ Ibid., p. 227.

medico-scientific research as integral to the expansion of the British Empire.¹⁴⁷ Ross's branding as heroic sea-faring explorer allows him to perform the cultural work of casting scientific discovery as a treacherous sea journey towards imperial glory. Ross's narrative depicts the suffering of the scientist by describing the research as a 'gamble', a 'vast and stormy [...] sea', and a 'wild [...] adventure'. The closing link to *Treasure Island* (1883), a boy's adventure novel written by Robert Louis Stevenson (1850-1894), references science as a colonial enterprise. Julia Reid notes that: '*Treasure Island* [...] [explores] bellicose imperialism and a ruthless creed of heroic manliness'.¹⁴⁸ Diana Loxley further investigates this aggressive imperialism present in the novel, commenting that

[t]he problem of order and instability [in *Treasure Island*] is represented by the threat of lawlessness and criminality internal to the system of European cultural identification, that is, issuing from within its own ranks as opposed to the threat posed by a racial, territorial, or cultural otherness from outside.¹⁴⁹

It seems little wonder then, that, publicly fighting to retain his priority from within the scientific community, Ross would use references to Columbus and *Treasure Island* to identify himself as an intrepid imperial sailor and his fellow scientists as ruthless pirates.

The Roles of Dame Nature and the Angel of Fate

While recounting the work that culminated in his hard-won malaria discovery, Ross references both Dame Nature and the Angel of Fate to create a heightened sense of drama.

In his early text *The Voyage on the Beagle* (1839), Darwin personifies nature:

¹⁴⁷ In one of these references to Columbus in *Memoirs*, Ross recounts a lecture to the Liverpool Chamber of Commerce on 27 November 1899 where he quoted from poet Martin Farquhar Tupper's (1810-1889) poem 'Columbus'. In the lecture Ross explains 'that [Columbus] "gave to man the godlike gift of half the world"' and that he could do the same through tropical medical work. This reference was picked up by periodicals and newspapers, such as the *Manchester Guardian*, *United Empire*, *Tropical Life and Stockfarming*, and the *Bulletin of the American Geographical Society*, confirming the success of Ross's self-fashioning as a medico-scientific Columbus.

¹⁴⁸ Julia Reid, *Robert Louis Stevenson, Science, and the Fin de Siècle* (New York: Palgrave Macmillan, 2006), p. 41.

¹⁴⁹ Diana Loxley, *Problematic Shores: The Literature of the Islands* (New York: Palgrave Macmillan, 1990), p. 132.

Eight times successively the bird let its prey go, then dived after it, and although in deep water, brought it each time to the surface. In the Zoological Gardens I have seen the otter treat a fish in the same manner, much as a cat does a mouse: I do not know of any other instance where dame Nature appears so wilfully cruel.¹⁵⁰

Although in this extract Darwin is identifying Dame Nature's cruelty as an anomaly, his personification of nature somewhat aligns with scholar Thomas Robert Malthus's (1766-1834) conceptualisation of Dame Nature in his infamous *Essay on the Principle of Population Growth* (1798) which fashions her as 'harsh and cruel' or as 'a kind of executioner' of those deemed illegitimate.¹⁵¹ Gillian Beer explains the contrast between these two personifications of Dame Nature: '[t]o Malthus fecundity was a danger to be suppressed', evident in nature as executioner, but '[t]o Darwin fecundity was a liberating and creative principle, leading to increased variability, increased potential for change and development.'¹⁵² Josephine McDonagh explains that Malthus's cruel figure of Dame Nature persisted throughout nineteenth- and twentieth-century literature.¹⁵³ This section examines Ross's development of Dame Nature and to what end his personification of nature is used to propel his public self-fashioning.

In *Memoirs*, on recalling the discovery of how malaria transmitted from mosquito to human on 20 August 1897, Ross personifies nature. He recounts exclaiming in his laboratory

"Dame Nature, you are a sorceress, but you don't trick me so easily. [...] you are playing another trick upon me!" [...] I made rough drawings of nine of the cells [...] scribbled my notes, sealed my specimen, went to tea [...], and slept solidly for an hour. [...] When I awoke with mind refreshed my first thought was: Eureka! The problem is solved!¹⁵⁴

¹⁵⁰ Charles Darwin, *The Voyage of the Beagle* (New York: Cosimo Classics, 2008) p. 204.

¹⁵¹ Brian Dolan, *Malthus, Medicine and Morality: Malthusianism After 1789* (Amsterdam: Rodopi, 2000), p. 107; Josephine McDonagh, 'Victorian Girlhood: Eroticizing the Maternal, Maternalising the Erotic: Same-Sex Relations between Girls, c. 1880-1920', *Children and Sexuality: From the Greeks to the Great War* ed. by George Rousseau (New York: Palgrave Macmillan, 2007), pp. 268-298 (p. 296).

¹⁵² Gillian Beer, *Darwin's Plots: Evolutionary Narrative in Darwin, George Eliot and Nineteenth-Century Fiction* (Cambridge: Cambridge University Press, 2000), p. 29.

¹⁵³ McDonagh, p. 296.

¹⁵⁴ Ross, *Memoirs*, p. 224.

Here, Dame Nature neither seems cruel nor a source of exciting potential, as expressed by Malthus and Darwin respectively. The personification of Dame Nature almost seems juvenile; indeed, Ann Crichton-Harris identifies this moment in *Memoirs* as unimpressively ‘flowery’ when compared to the “‘aha’ moment’ of contemporaneous scientific discoveries.¹⁵⁵ This ‘flowery’ depiction then offers a different conceptualisation of Dame Nature. Ross deems her merely an entertaining feminine ‘sorceress’, a purveyor of mystical tricks, and Ross, in his self-fashioning as diligent medico-scientific truth seeker, has uncovered the method behind these tricks. While this conceptualisation of Dame Nature does not appear in line with Malthus or Darwin, the Eureka moment at the conclusion of the quotation connects Ross’s malaria work to a lineage of ground-breaking scientific discoveries starting with Ancient Greek Archimedes’s discovery of ‘determining (by specific gravity) the proportion of base metal in Hiero’s golden crown’.¹⁵⁶ Again then, while deviating from accepted narratives of scientific research, Ross still includes allusions to particular tropes that link him with illustrious scientific forebears.

In a similar manner to his personification of Dame Nature, Ross borrows the terminology ‘Angel of Fate’ in order to highlight a particular public persona. He personifies Fate four times in *Memoirs*, noting it as a help and hindrance to his work, for example

on 24 September, just after I had found the pigmented cells in the last mosquito and was gloating over this proof of the theory, the cruel Angel of Fate, who had been so kind to me before, now struck me down with the following order: “Under instructions from Command Headquarters, Surgeon-Major R. Ross, I.M.S., will proceed immediately to Bombay for military duty.”¹⁵⁷

¹⁵⁵ Ann Crichton-Harris, *Poison in Small Measure: Dr. Christopherson and the Cure for Bilharzia* (Leiden: Brill, 2009), p. 33.

¹⁵⁶ ‘Eureka, int. (and n.)’ in *The Oxford English Dictionary* [online] URL: <http://www.oed.com/view/Entry/65083?redirectedFrom=eureka> [Accessed: 4 July 2017].

¹⁵⁷ Ross, *Memoirs*, p. 239.

As mentioned earlier, Ross's IMS employment during his malaria research meant that it was his duty to move posts as he was needed. Personifying fate here allows the blame for his lack of focus on his actual profession to be placed somewhere else, rather than on him. This personification enables his self-fashioning as the suffering medico-scientific researcher, impeded in his heroic endeavours by a dramatic turn of fate, rather than by bureaucracy. Darwin never uses the word fate in his autobiography; Huxley uses the word only once when discussing his pursuit of a medical career, rather than that of a mechanical engineer ('the fates were against this'), and Galton uses fate in his memoirs only when discussing deaths ('fate in the form of a cat' killed Galton's pet fish).¹⁵⁸ In fact, Ross's term 'Angel of Fate' seems to stem from William Blake's (1757-1827) poem 'A War Song to Englishmen'. The poem has been described by David V. Erdman as an 'enigma', because of its uncharacteristic patriotism when compared to the rest of Blake's poetic corpus.¹⁵⁹ The poem begins: 'Prepare, Prepare, the iron helm of war, / Bring forth the lots, cast in the spacious orb; / Th' Angel of Fate turns them with mighty hands, / And casts them out upon the darken'd earth! / Prepare, prepare.'¹⁶⁰ Here, the Angel of Fate throws the soldiers into the throngs of war. The poem ends with the poetic voice calling to the wartime soldiers: 'Our cause is Heaven's cause', 'Be worthy of our cause', 'Prepare to meet our fathers in the sky'.¹⁶¹ Ross's borrowing of Blake's terminology then makes sense: Ross implicitly self-fashions as a soldier once more; a soldier thrust by the Angel of Fate into a war that is, according to Blake's poem, meant to lead him to heroic glory.

The figurative language Ross deploys evidences his aggravated struggle first to conduct malaria research and, subsequently, to defend his priority. These images of religiosity, war, and piracy, along with the personification of nature and fate rhetorically

¹⁵⁸ Huxley, 'Autobiography', p. 103, Galton, *Memories of My Life*, p. 56.

¹⁵⁹ David V. Erdman, *Blake: Prophet Against Empire* (New York: Dover, 1991) p. 18.

¹⁶⁰ William Blake, 'A War Song to English Men', *The Complete Poetry and Prose of William Blake* ed. by David V. Erdman (California: University of California Press, 2008), p. 440.

¹⁶¹ *Ibid.*, p. 440.

work to demonstrate Ross's struggling to gain knowledge and the fight to retain authority over that knowledge. Religious images highlight Ross's devotion to scientists and the scientific endeavour. His use of war metaphors makes clear the battle Ross had to endure to make his malaria discovery. Piratical imagery provides a juxtaposition between Ross the imperial sea-faring discoverer and foreign scientists, characterised as pirates waiting to claim his hard-won discovery for themselves. The figures of Dame Nature and the Angel of Fate provide foes to overcome during the research period. The overall effect is that his neglect is represented as entirely unnecessary and unjust: a devoted imperial hero, willing to sacrifice his life for scientific knowledge, should be adequately defended against foreign pirates, remunerated for his service, and publicly celebrated. However, the contemporaneous reviews of Ross's distinct 'dying-to-know' narrative reflected a mixed reception.

Mixed Reviews

Leonard Woolf (1880-1969) writes in his review of Ross's autobiographical work:

'Memoirs are to the critic [...] what the microscope is to scientists like Sir Ronald Ross'.¹⁶²

Reviews of Ross's *Memoirs* indicate that readers did observe Ross's divergence from the widely circulated narratives of the scientific autobiography. The opinion of each reviewer as to whether they have been convinced that Ross suffered from a lack of recognition and reward evidences how effective Ross's distinct self-fashioning was for a contemporary readership.

In the earliest review of Ross's *Memoirs*, printed in *The Scotsman*, the anonymous reviewer writes: 'the mosquito, although not placed exactly at the front of the stage,

¹⁶² Leonard Woolf, 'The World of Books: Poetry and Malaria', *The Nation and the Athenaeum*, 2 June 1923, p. 304.

occupies the central and largest part'.¹⁶³ This sly remark implies that it is in fact Ross who is placed at the front of the stage, rather than his scientific discovery. The day of Ross's accomplishment is somewhat diminutively described as a 'fairy tale of science' in this review, glossing over the hardships Ross obviously worked to highlight in *Memoirs*. The review concludes by disagreeing with Ross's plea for further recognition, noting '[t]hat recognition and reward, if tardy in coming, have been wide and full, is attested by the list of "Honours and Awards" with which Sir Ronald Ross fills a page of his Appendix'.¹⁶⁴ The reviewer appears to have misunderstood that it is not that Ross denies that rewards were bestowed upon him (for example, Ross acknowledges his Nobel Prize, dedicating the text to the people of Sweden because of it), instead it is that these rewards were not sufficient to allow him to continue his scientific research. Reviews from medical professionals were mixed and appeared less frequently than Ross might have liked.

A list of those to be sent review copies of Ross's *Memoirs* is available in the John Murray Archive. Ross's request that particular notable physicians pen reviews for *Memoirs* suggests that, while he produced a memoir that challenges accepted research narratives, he still hoped for approval from his network of contemporaries. Ross names Dr Harvey Cushing (1869-1939) (well-known American neurosurgeon and biographer of Ross's friend, Sir William Osler), Dr Howard Kelly (1858-1943) (notable gynaecologist and biographer of Dr Walter Reed), Colonel W. G. King (1852- 1935) (prominent IMS surgeon mentioned in *Memoirs*), Dr Robert McNair Wilson (1882-1963) (anonymous medical correspondent for the *Times*, with whom Ross was acquainted), and Dr Marie Phisalix (1861-1946) (one of the first women to be awarded the title of Doctor in France; a herpetologist, and biographer of Dr Charles Louis Alphonse Laveran). The individuals solicited for review were clearly selected for their medical prowess, as well as their familiarity with the genre of scientific biography and autobiography. Unfortunately, both

¹⁶³ Anonymous, 'The Malaria Problem', *The Scotsman*, 28 May 1923, p. 2.

¹⁶⁴ *Ibid.*, p. 2.

reviews of Ross's *Memoirs* printed in medical journals were published anonymously. *The Lancet*'s anonymous reviewer acknowledges that Ross has garnered a list of rewards 'of which any man might be proud', but they also recommend that Ross's *Memoirs* should provide 'pregnant lessons for the public':

Once again a great scientific research is shown to have succeeded in face of public apathy, the protagonists are found to receive little material support, and the wide economic bearing of the discovery, as influencing for the better the death-rates and life conditions of millions of people, goes largely unobserved at first.¹⁶⁵

Thus, while the reviewer for *The Lancet* believes that Ross has been fortunate in terms of the recognition he has received, they do recognise the frustration that culminated in the creation of Ross's distinct narrative (that 'once again' scientific research is being ignored). The medical professional who reviewed *Memoirs* for the *Journal of the American Medical Association* was far less sympathetic to Ross's supposed plight. According to the American Medical Association (AMA), *Memoirs* is 'marred by being overloaded with personal grievances, with the reiteration of the author's ill treatment – real or imaginary – and with the emphasis of his personal valour and persistence in overcoming apparently insurmountable obstacles'.¹⁶⁶ These elements of *Memoirs* are described as inappropriate for autobiographical work.¹⁶⁷ The AMA journal review is strikingly negative about Ross's challenge to the 'records of results' narrative in *Memoirs*. The reviewer recognises the inclusion of the 'personal' and wholly rejects it.

The review printed in *The Spectator*, also noting Ross's divergence from the accepted narrative of scientific research, strikes a similar tone of disapproval and disgust. In 'A Scientific Cortez', the reviewer for *The Spectator* notes that '[t]here is a tradition that eminent scientists, [...] are of a truly Christian humility, their vast conquests of knowledge

¹⁶⁵ Anonymous, 'Reviews and Notices of Books', *The Lancet*, 201 (5205) (2 June 1923), 1112-1115 (p. 1113).

¹⁶⁶ Anonymous, 'Book Notices', *Journal of the American Medical Association*, 81 (20), (1923), 1715-1716 (p. 1716).

¹⁶⁷ *Ibid.*, p. 1716.

being overmatched by their vaster conquest and renunciation of self.’¹⁶⁸ The reviewer has evidently identified what Levine deems the ‘dying-to-know’ narrative. The reviewer then emphasises how Ross’s *Memoirs* is the antithesis of this accepted narrative of self-denial:

Sir Ronald Ross would scorn the type. He is a complete and candid egoist, incapable of the timid privacies of intellectual poverty and unable to conceal a single resentment. [...] [He has] an unusual self-expressiveness [...]. All his energies have gone primarily to the assertion of his ego. [...] He thirsts for knowledge, but even for knowledge simply as part of his unrealised self. [...] [A]ll alike feed the vehement obstreperous *I*.¹⁶⁹

The reviewer believes that Ross is ‘perhaps unconscious’ of the ‘kind affection showered on him by others’ and concludes that ‘when every lesser passion has faded, Sir Ronald Ross’s memories will be nourished on a lawful and noble pride in what his restless mind has accomplished’.¹⁷⁰ This unfavourable review, particularly the conclusion, suggests that the greatest reward the unapologetically self-centred Ross can be expected to receive for his agonising years of research is a sense of personal accomplishment.

The New Statesman similarly identifies Ross’s *Memoirs* as a distinct way of writing about scientific research, but the reviewer casts *Memoirs* in a more favourable light:

[I]nstead of giving a retrospective summary of the stages of his discovery such as we find in the biographies of most men of science, he tells the story of his progress towards it as it was lived through, with his set-backs and thrills as an often-baffled but triumphant investigator. His memoirs also show him to be a man of energetic personality with a naturally self-assertive temperament.¹⁷¹

Noted again by a reviewer is the way in which Ross infuses his memoirs with a ‘telling of the self’, attributed here to an inherent personality trait that cannot be denied.¹⁷² This particular reviewer appreciates the authenticity not typically found in scientific writings, commenting that each page ‘reflects [...] not only the *ardour* but the *candour* of mind

¹⁶⁸ Anonymous, ‘A Scientific Cortez’, *The Spectator*, 18 June 1923, p. 1008.

¹⁶⁹ *Ibid.*, p. 1008.

¹⁷⁰ *Ibid.*, p. 1009.

¹⁷¹ Anonymous, ‘Three Biographies’, *The New Statesman*, 23 June 1923, p. 884.

¹⁷² Charon, p. 70.

which are characteristic of the *genuine* man of science'.¹⁷³ With *Memoirs* Ross has been able to show the true dedication and struggle of the scientist by presenting to his readership the 'genuine man of science'.

In 'Sir Ronald Ross: The Memoirs of an Empire Builder', the reviewer notes that with *Memoirs* Ross has added

to the literature of science and of poetry a most characteristic and unprecedented work, packed with the author's own remarkable and attractive personality and with impersonal scientific truth.¹⁷⁴

Again, personality is at the forefront of the reviewer's summation of *Memoirs*. This reviewer entirely accepts and sympathises with Ross's view of events, explaining that he 'is fully warranted in recording his regret that he was never given the chance to apply his discovery adequately for Empire building'.¹⁷⁵ *The Observer's* review then fully endorses Ross's public persona as a scientific researcher working hard to secure and expand the British Empire. The review concludes that Ross should have been further employed in the work of tropical medicine, rather than pushed aside to pursue what he felt was mediocre work ('Instead of using me for the large sanitary schemes as I desired, my countrymen offered me only three minor occupations – to teach students, to dissect parasites, or to prescribe pills').¹⁷⁶

In an even more flattering review, written by Surgeon-Colonel W. G. King, to whom Ross specifically sent a review copy, King aligns Ross with the beloved fictional detective, Sherlock Holmes. In the *Nature* review of *Memoirs*, King states that the autobiography, being 'devoid of technicalities of relentless search for a scientific truth [...], may compete with Sherlock Holmes's efforts at his best.'¹⁷⁷ By using this

¹⁷³ Anonymous, 'Three Biographies', p. 884.

¹⁷⁴ Anonymous, 'Sir Ronald Ross: The Memoirs of an Empire Builder', *The Observer*, 24 June 1923, p. 16.

¹⁷⁵ *Ibid.*, p. 16.

¹⁷⁶ Ross, *Memoirs*, p. 468.

¹⁷⁷ W. G. King, 'Memoirs: With a Full Account of the Great Malaria Problem and its Solution', *Nature*, 112 (2801) (7 July 1923), 3-5 (p. 3).

comparison, King explicitly aligns Ross with the world-renowned scientific detective character created by Ross's good friend Doyle. Indeed, according to Michael Saler, 'Holmes was the first character in modern literature to be widely treated as if he were real and his creator fictitious'.¹⁷⁸ Saler particularly marks out the interwar period, during which Ross published *Memoirs*, as a period during which 'an outpouring of articles in prominent magazines, and books from respectable publishers, [...] treated Holmes and Watson as real individuals.'¹⁷⁹ Thus, King is capitalising on the surge of interest and affection for the character of Holmes to enhance Ross's public persona. Taylor-Brown also notes a link between Holmes and Ross: she suggests that Doyle's professed admiration of Ross may have 'derived from the recognition, in him, of something resembling Holmes. [...] Holmes and Ross embody allied heroic positions in the cultural consciousness, sharing a distinct type of scientific outlook that is overly concerned with national and imperial identity.'¹⁸⁰ King's review then contemporaneously acknowledges these allied heroic positions. King ends his review posing the question: 'What has the nation, the Parliament of which voted 30,000 to Jenner in token of gratitude, done for this practical philanthropist?'¹⁸¹ King then indicates that, since Ross's agonising work to protect the Empire rivals that of the fictional Holmes in terms of importance to the British public, Ross should be just as well-recognised and should be called on for help to protect the British Empire just as frequently as the fictional detective. King's review of Ross's *Memoirs* was not the only one to appear in *Nature*; Ross's nemesis, Grassi, used four pages of the journal to give his opinion on the work.

¹⁷⁸ Michael Saler, "'Clap if you believe in Sherlock Holmes": Mass Culture and the re-enchantment of Modernity, c. 1890 – c. 1904', *The Historical Journal*, 46 (3), (16 September 2003), 599-622 (p. 600).

¹⁷⁹ *Ibid.*, p. 600.

¹⁸⁰ Emilie Taylor-Brown, *Miasmas, mosquitoes, and microscopes: parasitology and the British literary imagination, 1885-1935*. (PhD Thesis, University of Warwick, 2016), p. 213.

¹⁸¹ King, p. 5.

Grassi's Review

As evidenced in this chapter, Grassi was the primary target of Ross's *Memoirs*. Ross presents Grassi to his readership as immoral, suggesting that he has so little talent that he survives by stealing the research of genuine scientists. As mentioned earlier, DeWitt, expanding upon Levine's discussion of the 'dying-to-know' narrative by examining its relation to morality, claims that in fact 'two narrative sequences existed: the dying-to-know narrative [...], in which moral excellence is the prerequisite for scientific work; and a narrative in which scientific work has moral effects on the worker'.¹⁸² DeWitt explains that figures like Huxley and Tyndall intertwined these two 'narrative sequences' to suggest that 'scientific work both requires and cultivates moral excellence'.¹⁸³ However, Ross's autobiography does not adhere to either of these 'narrative sequences': he does not establish scientific research as a method through which to develop or enhance moral character, as evidenced by his undermining of Grassi and other men of science.

Unsurprisingly, Grassi was disgusted by the way he had been portrayed in *Memoirs*. In an effort to remove *Memoirs* from bookshops he sent a letter to Ross's publisher, Murray, claiming that *Memoirs* 'gravely defamed' him and suggesting that Murray 'withdraw from trade the memoirs of Ronald Ross'.¹⁸⁴ Murray passed the letter onto Ross with his own letter attached confirming that he would certainly not be removing the book from trade. He also sent a placating reply to Grassi explaining that he has no knowledge of parasitology and that he has forwarded the letter to Ross.¹⁸⁵ Ross responds to Murray writing that the best option is to simply ignore Grassi.¹⁸⁶ There is no further evidence of correspondence in

¹⁸² DeWitt, p. 7

¹⁸³ *Ibid.*, p. 39.

¹⁸⁴ Edinburgh, National Library of Scotland. The John Murray Archive. B. V. 21 Sir R. Ross *Memoirs*. 'Giovanni Battista Grassi to Ronald Ross'. 26 July 1926.

¹⁸⁵ Edinburgh, National Library of Scotland. The John Murray Archive. B. V. 21 Sir R. Ross *Memoirs*. 'John Murray to Giovanni Battista Grassi'. 30 July 1923; Edinburgh, National Library of Scotland, The John Murray Archive. B. V. 21 Sir R. Ross *Memoirs*. 'John Murray to Ronald Ross'. 31 July 1923.

¹⁸⁶ Edinburgh, National Library of Scotland. The John Murray Archive. B. V. 21 Sir R. Ross *Memoirs*. 'Ronald Ross to John Murray'. 6 August 1923.

the archives. Perhaps because Ross refused to reply, Grassi decided to present his case to the public.

A year after the publication of *Memoirs* and Grassi's initial letters of complaint, Grassi took action by producing an article for *Nature*, in which he remarked: 'I cannot accept [Ross's] opinions. [...] I shall limit myself to a statement of the facts, without heeding the language in which I have been vilified, and carefully avoiding personalities.'¹⁸⁷ Juxtaposing Ross's 'opinions' with his own 'facts', Grassi promises to do what Ross did not: to provide 'records of results' in order to uphold the accepted narrative of scientific research.¹⁸⁸ However, Grassi does not only state facts, instead utilising almost Holmesian imagery to convince the reader of his priority. Grassi describes his method of discovering the type of mosquito that transmits malaria as follows:

To explain my meaning by a similitude, if in a village of a thousand inhabitants a theft has been committed, it will be very difficult to discover the thief, unless it is first established, by appropriate investigations, which persons fall under suspicion. Once in possession of the list of suspects, it is much easier to find the culprit, as every detective knows full well.¹⁸⁹

Here, Grassi asserts himself as the detective, rather than the pirate he is accused of being in *Memoirs*. He emphasises his careful consideration of mosquito 'suspects' and implores the reader to understand that these methods should be employed by all men of science. Grassi juxtaposes this metaphor with his description of Ross's identification of the malaria mosquito:

[Ross] also subjected men to the bites of mosquitoes (which?) fed on malarial blood; but afterwards he abandoned this method and chose another – examining every blood-sucking insect he could lay his hands upon, and trying to cultivate malarial parasites in it.¹⁹⁰

¹⁸⁷ Giovanni Battista Grassi, 'The Transmission of Human Malaria', *Nature*, 113 (2835) (1 March 1924), 304-307 (p. 304).

¹⁸⁸ Ross, *Memoirs*, p. vi.

¹⁸⁹ Grassi, 'The Transmission of Human Malaria', p. 304.

¹⁹⁰ *Ibid*, p. 304.

Essentially Grassi is suggesting that Ross was an unfit scientist and that, as a result, he conducted haphazard and careless research. The implication from this quotation being that Ross was simply extraordinarily lucky to have made the discovery at all. The main body of the article briefly describes Grassi's research, placing Ross in the position of the thief by quoting one of Manson's letters found in *Memoirs*: 'I hear Koch has failed with the mosquito in Italy so you have time to grab the discovery for England'.¹⁹¹ Grassi concludes:

The "Memoirs" of Ross contain many other inexactitudes concerning myself and my Italian colleagues, but I believe that the passages I have already noted will suffice to enlighten any impartial reader. At any rate, I am always ready to answer frankly every other charge.¹⁹²

Grassi believes he has been mistakenly charged with a crime of piracy that he did not commit, using four pages to counteract Ross's 547 page-long statement of scientific work in *Memoirs*. Ross replies to Grassi's contestation with two short paragraphs the following week.

Ross's short rebuttal to Grassi's argument is primarily a list of eminent scientists who agree with Ross's claim to priority and a list of the various forms of recognition he has received for his malarial research. Ross said a conclusion can only be drawn by 'competent men of science who have studied the matter'.¹⁹³ He then identifies these men, explaining that in *Memoirs* he has 'quoted the opinions of Lord Lister, Sir Patrick Manson, Dr Laveran, Prof. Robert Koch, Dr J. Mannaberg, Dr. E. Ulmquist, and Prof. Dr. Galli-Valerio'.¹⁹⁴ In the next and penultimate sentence of the article, Ross writes that in 'May 1901, dr. G. H. F. Nuttal published a critical analysis of the question of priority; in 1902 the Nobel Committee of Stockholm decided in my favour; and in the last January number of *Discovery*, Sir Arthur Shipley has now summed up the position.'¹⁹⁵ In these lengthy

¹⁹¹ Ross, *Memoirs*, p. 334.

¹⁹² Grassi, 'The Transmission of Human Malaria', p. 307.

¹⁹³ Ronald Ross, 'The Transmission of Human Malaria', *Nature*, 113 (2836) (8 March 1924), 353 (p. 353).

¹⁹⁴ *Ibid.*, p. 353.

¹⁹⁵ *Ibid.*, p. 353.

lists, Ross is simply reiterating what he was already able to evidence in *Memoirs*. Despite Ross's concluding line that he 'cannot afford to spend any more time discussing it', Grassi responds two weeks later, borrowing Ross's technique of listing by providing names of people who hold 'favourable opinions [of Grassi's work] which are no less authoritative'.¹⁹⁶ Ross did not reply to Grassi's article and, since Grassi died the following year, the twenty-six year battle for priority was won.

Conclusion

Levine evidences the fact that Ross's forebears opted to banish the self in their scientific autobiographies in order to provide a 'dying-to-know' narrative, or as Ross thought of them, mere 'records of results'. Instead, Ross provides an in-depth memoir recounting the neglect of the suffering heroic medico-scientific researcher. Ross exposes these limiting 'records of results' as the reason scientists are not being recognised and rewarded for their life-threatening research to aid humankind and increase scientific knowledge. Ross's *Memoirs* then is best identified as a manipulation of the 'dying-to-know'/'records of results' narrative: it is the emotional story of Ross reflecting on his striving for knowledge to the detriment of his passions and well-being as a means of altering the public perception of medico-scientific researchers. Ross disregards 'knights of science' rhetoric, instead aiming for a seemingly contradictory constellation of imagery in order to convey to his readership his suffering and right to public acknowledgement. Religious imagery, which was utilised by previous generations of scientific naturalists to bolster their professional reputation, is used by Ross to pay homage to past sufferers, but also to question why, if these men are prophets of science, they are not being appreciated as such. First World War imagery held emotional resonance as it was a war in which his family fought and died, and

¹⁹⁶ Giovanni Battista Grassi, 'The Transmission of Human Malaria', *Nature*, 113 (2839) (29 March 1924), 458 (p. 458).

so it enabled him to truly reveal the struggle of the suffering scientist to a public who had also witnessed the horrors of the Great War. Further, it was war metaphors in Manson's letter to Crosthwaite that brought Ross to the attention of the bureaucrats and gave him time to complete his malaria research and identify as a national hero. Piratical imagery aligned Ross's narrative with that of an intrepid hero battling against piracy by casting Grassi not only as a threat to Ross's priority, which might seem insignificant to a lay audience, but as a threat to the success of the British Empire, exaggerating Grassi's threat. The personification of Dame Nature and the Angel of Fate rhetorically work to provide enemies for him to overcome within Ross's research laboratory.

Ross self-fashions in *Memoirs* as a pioneer of scientific research, presenting himself as a national hero of the British Empire and a figure worthy of religious-like adoration from the general public, as well as a pioneer of the rights and recognitions of the scientific researcher. He uses an opportunity to present his research narrative to instead stress the neglect of the suffering heroic medico-scientific researcher. By introducing the self to his research narrative, Ross demonstrates medics' and scientists' need to refashion themselves and present alternative narrative sequences in order to garner the respect and acknowledgement they deserve.

CHAPTER TWO

FASHIONING THE MEDICO-SCIENTIFIC ROMANCER

Introduction

In June 1920, at a Royal Institution lecture entitled ‘Science and Poetry’, Ross explained to the audience that both art and science have ‘to do with ethics, with teaching, with the advancement of the race’: ‘I say, not art for art’s sake, nor science for the sake of science, but both for humanity.’¹ Ross commended didacticism in literature. In 1905, he praised his friend Henry Rider Haggard’s (1856-1925) sequel to *She* (1887), *Ayesha: The Return of She* (1905), writing to Haggard: ‘It is really a very great romance because I think it has some very high allegorical meaning. In my opinion, this potentially is what differentiates first-class from second-class romance’.² Ross published three romances during his lifetime: *The Child of Ocean: A Romance* (1889), *The Spirit of Storm: A Romance* (1896), *The Revels of Orsera: A Medieval Romance* (1920). The first two sections of this chapter analyse the didactic functions of Ross’s first two romances, which I argue are concentrated in the novels’ depictions of medicine and empire. Ross’s first two novels impart medical and scientific knowledge and dramatise the relevance of that knowledge to national health and the progress of empire. In writing these novels, Ross presents himself both as a scientific authority and as a popular disseminator of medical knowledge. Ross’s final novel has a less explicit connection to the imperial project, however this chapter will argue that *The Revels of Orsera* dramatises the danger of public

¹ London, London School of Hygiene and Tropical Medicine. The Ross Collection. Ross/131/14/20. ‘Science and Poetry’. MS of lecture delivered at the Royal Institution, 4 June 1920.

² Quoted in Lilius Rider Haggard, *The Cloak that I Left: a biography of the author, Henry Rider Haggard, K. B. E.* (London: Hodder and Stoughton, 1951), p. 208.

ingratitude to medico-scientific researchers: unlike his first two novels, Ross's final novel acts as an allegory for the neglect of the virtuous hero.

Romance Revival

'It is now undeniable that the love of adventure, and of mystery, and of a good fight lingers in the minds of men and women' wrote the author and literary critic Andrew Lang (1844-1912) in 1887.³ Lang identified the literary output of Haggard and Robert Louis Stevenson (1850-1894) as pioneers of the contemporaneous romance revival. Robert Fraser explains that the development of romance stemmed from two events. First was a 'rapid expansion of the Empire, dispatching administrators, engineers, and missionaries to far-flung places, from which they sent back reports' to the metropole.⁴ Then came the 'careful monitoring of these disclosures by organizations such as the Royal Geographical Society and the Anthropological Institute, demonstrating a growing interest in the implications of such discoveries'.⁵ These disclosures then provided fodder for contemporaneous romances. During this time the doctrine of New Imperialism (1870-1914) was also thriving: an ideology defined as having 'the cultural conviction, rooted in political discourse but broadly diffused through the media of popular culture, that the Empire was the source and proof of Britain's glory.'⁶ This contention, that distant lands were ripe for conquering and that their conquering enabled the success of the imperial project, proliferated in *fin-de-siècle* romance.

This chapter identifies Ross's first two novels, *The Child of Ocean* and *The Spirit of Storm*, as part of the subgenre of 'scientific romance'. Brian Stableford explains that

³ Andrew Lang, 'Realism and Romance', *The Contemporary Review, 1866-1900*, 52 (November 1887), 683-693 (p. 692).

⁴ Robert Fraser, *Victorian Quest Romance: Stevenson, Haggard, Kipling and Conan Doyle* (Plymouth: Northcote House, 1998), p. 14.

⁵ *Ibid.*, p. 14.

⁶ Bradley Deane, *Masculinity and the New Imperialism: Rewriting Manhood in British Popular Literature, 1870-1914* (Cambridge: Cambridge University Press, 2014), p. 9.

‘scientific romance’, a term used before the advent of science fiction in the 1920s, was a subgenre of romance ‘that took its inspiration from the advancement of science.’⁷ As this chapter will argue, Ross did indeed utilise his scientific and medical knowledge in his first two novels to craft didactic romances which dramatise the importance of that knowledge to the security of the British Empire. This identification of *The Child of Ocean* and *The Spirit of Storm* specifically as scientific romance highlights a distinction between Ross’s first two novels and his final novel, *The Revels of Orsera*, which does not engage with scientific and medical knowledge to the same extent and so can only be identified under the broader category of romance. The distinction also marks a significant change in Ross’s self-fashioning through his first two novels, published before his malaria research made him a celebrity medico-scientific researcher, and his final novel, published two decades after his malaria discovery.

Malarial Empire Fiction

This chapter builds upon Jessica Howell’s critical commentary on nineteenth-century malarial fiction. Her book, *Malaria and Victorian Fictions of Empire* (2019), examines depictions of malaria in the works of Charles Dickens (1812-1870), Henry James (1843-1916), Olive Schreiner (1855-1920), H. Rider Haggard, and Rudyard Kipling (1865-1936). Howell establishes malaria as one of the ‘defining diseases of the nineteenth century’, examining how these authors addressed, adapted, and reacted to colonial medical discourse in their depictions of malaria to indicate their views on the British Empire.⁸ Howell argues that Dickens, James and Haggard ‘show Anglo-British and

⁷ Michael Saler, “‘Clap If You Believe in Sherlock Holmes’”: Mass Culture and the Reenchantment of Modernity, c. 1890–c. 1940’, *Historical Journal*, 43 (6) (2003), 599-622 (p. 612). Brian Stableford, *Scientific Romance, An International Anthology of Pioneering Science Fiction* (New York: Dover Publications, 2017), pp. 3-4.

⁸ Sam Goodman, ‘Malaria and Victorian Fictions of Empire’, *Nineteenth-Century Contexts: An Interdisciplinary Journal*, 42 (2), (2020), 248-249 (p. 248).

American characters becoming acutely ill when visiting areas of endemic malaria [...] to highlight the “otherness” of the foreign environment’.⁹ On the other hand, she argues that Schreiner uses depictions of malaria in her fiction to highlight ‘colonial systems of exploitation’.¹⁰ Finally, in *Kim* (1901), Howell explains that Kipling imagines Anglo-Indians as ‘adaptable’, working alongside native Indians who ‘respect and support them’.¹¹ While Howell clearly examines the effect of Ross’s medico-scientific breakthrough on contemporaneous malarial fiction, she does not address Ross’s novels. This chapter focuses on Ross’s three published romances, examining the extent to which Ross engages with malaria in his romances, and places these depictions in the context of his contemporaneous medico-scientific work and self-fashioning.

Publishing *The Child of Ocean*

In May 1886, twenty-nine-year-old Ross was deployed to act as surgeon-apothecary for a new ‘wing of the 9th Regiment, Madras Infantry, stationed in the Andamans’.¹² He had recently abandoned his interest in mathematics, since he was convinced that, as a ‘self-taught amateur’, he was ‘sure to be ignored or ridiculed by the professionals; it was unlikely that [his] work would ever be published in professional mathematical journals.’¹³ Mathematics then was not an appropriate vehicle to gain access and admiration from professionals and establish a persona as an intellectual: Ross writes that ‘[t]he toil was extremely severe and my life was being wasted.’¹⁴ Aiming his determination for success and notoriety in another direction, Ross arrived on the Andaman Islands ‘with a revived

⁹ Jessica Howell, *Malaria and Victorian Fictions of Empire* (Cambridge: Cambridge University Press, 2019), p. 117.

¹⁰ *Ibid.*, p. 117.

¹¹ *Ibid.*, p. 150.

¹² Ronald Ross, *Memoirs: with a full account of the great malaria problem and its solution* (London: John Murray, 1932), p. 67.

¹³ *Ibid.*, p. 67.

¹⁴ *Ibid.*, p. 67.

ardour for [his] literary efforts.’¹⁵ On completing his medical work in the morning, he would go riding on his beloved horse, Dotty, or go sailing ‘and all the time [he] moulded [...] his romance, *The Child of Ocean*’, a novel written ‘among the scenes it describes.’¹⁶ The novel opens on a crew of pirates from the *Black Eagle* as they attempt to steal from what they think is a merchant vessel, but mistakenly sink a missionary ship from which only an infant, the subsequently named ‘child of ocean’, survives. The infant is swept onto the *Black Eagle* by a strong wave; the captain, Bully Hayes, sees this as an omen that he must now care for the child. Eight years later the pirates are murdered, and their ship is wrecked on the Andaman Islands, a wreck which only the ‘child of ocean’ survives. Living alone for two decades, the child becomes a feral man. At this point, a young upper-class English woman, Leda Vanburgh, is also shipwrecked. Despite her initial disgust at the feral man, Leda grows to love him, naming him John. After two years together, Leda’s uncle and adoptive parent, Lord Vanburgh, arrives to rescue her. He is repulsed by John and claims he will only rescue him once Leda is safely returned to India. When she leaves, John is convinced that Leda has abandoned him, and so he dies from a broken heart. Lord Vanburgh is forced by the ship’s crew to return for John. Finding him dead, the crew abandon Lord Vanburgh with John’s body and a pistol, implying that he must kill himself for the wrong he has committed on the island.

Getting *The Child of Ocean* published was no easy task. As soon as Ross arrived in England to begin his first furlough from the IMS, during which he obtained a Diploma in Public Health and studied bacteriology with E. E. Klein, he also sought out potential publishers. In March 1889, the manuscript was rejected by Kegan Paul, Trench and Co., before being sent by F. V. White for two reports to ascertain its suitability.¹⁷ While the first reader’s report, written by popular novelist Emily Lovett Cameron (1844-1921),

¹⁵ Ibid., p. 67.

¹⁶ Ibid., p. 68.

¹⁷ Gibson and Nye, *Ronald Ross*, p. 195.

found the novel to be ‘exceptionally favourable’, the anonymous second reader did not agree.¹⁸ The second reader noted that ‘the horrors described are most revolting’ citing ‘innumerable detail about dead bodies, their appearance, and their decay’.¹⁹ It is possible that the reader knew of or guessed Ross’s current employment as a surgeon-apothecary, as they write in parentheses ‘they may be true details but all that is true is not good to be written in a work of fiction even if founded on fact’.²⁰ Evidence of Ross’s medical training is glimpsed when, for example, the narrator explains that the cause of a sailor’s death is related to having ‘had his skull fractured’ or when the sailor is subsequently identified as being in a state of ‘rigor mortis’.²¹ Further evidence of his medical knowledge is clear when Leda develops malaria, fully examined later in this chapter.²² In *Memoirs*, Ross quotes from subsequent correspondence with F. V. White. The publishers claimed that “no art could reconcile the ordinary English public to the idea of a pure, virtuous girl falling finally in love with a wild monster” [...] this was opposed to the standard of good taste accepted in this country’.²³ These remarks not only declare the novel unfit for publication due to graphic depictions of corporeal details, but they also hint at a distaste for Ross’s status as an Anglo-Indian. In *Memoirs*, Ross in fact alludes to his suspicion that there is a general distaste for Anglo-Indians, noting that they were ‘a caste apart from that of the stay-at-homes’ and ‘almost aliens even in the land of [their] fathers’.²⁴ F. V. White’s remarks then imply that what may be acceptable to those living in the colonies is unacceptable to those at the metropole.

Remarks like those from F. V. White, which were echoed in some of the reviews of the novel, could account for the reasoning behind Ross omitting nominal letters or

¹⁸ Glasgow, Royal College of Physicians and Surgeons of Glasgow. The Ross Collection. 9/LIT 2/4/42. ‘Mrs Lovett Cameron’. 1894.

¹⁹ Glasgow, Royal College of Physicians and Surgeons of Glasgow. The Ross Collection. 9/LIT 2/4/9. ‘Reader’s Report on *The Child of Ocean*’. Undated.

²⁰ Ibid.

²¹ Ibid., p. 85.

²² Ross, *The Child of Ocean*, p. 172.

²³ Ross, *Memoirs*, p. 84.

²⁴ Ibid., p. 17.

other explicit indicators of his IMS career on the cover page.²⁵ Christopher Baron and Christopher Hamlin's assertion about Ross, that he was eager to brand himself as 'no mere colonial doctor', then appears evident here too.²⁶ This choice of omitting nominal letters contrasts with novels by similar authors: on the cover page of and introduction to *Golden Bullets: A Story in the Days of Akber and Elizabeth* (1891) fellow IMS member, William Wotherspoon Ireland (1832-1909) seems at pains to highlight his first-hand experience of India.²⁷ However, when *Golden Bullets* was published, Ireland had not lived in India for thirty years, instead distinguishing himself as a well-regarded physician in Edinburgh.²⁸ Despite F. V. White's distaste for Ross and his novel, Ross continued to pursue publication, eventually having *The Child of Ocean* accepted by Remington and Co. in July 1889, the day before he sailed back to India for IMS duty.

The Child of Ocean was finally published in November of 1889. Archival material highlights the self-presentation Ross sought by publishing the romance. A letter from Remington and Co. on 7 November includes a list of people to whom complimentary copies had been dispatched: these include Haggard, Lovett Cameron, Algernon Charles Swinburne (1837-1909), and Walter Besant (1836-1901).²⁹ Based on the list, which also included members of Ross's immediate and extended family, it appears likely Ross crafted it for his publisher. If that was the case, Ross clearly wished to use *The Child of Ocean* to propel himself into the realm of celebrity romancers by sending his work to noted romancers. Fellow romancer Charles H. Eden (1839-1900), author of *Wronged; or,*

²⁵ The 'Notice' at the opening of the novel states that this novel was 'written among the scenes it describes', but this does not make clear Ross's profession or reason for being on the Andaman Islands.

²⁶ Christopher Baron and Christopher Hamlin, 'Malaria and the Decline of Ancient Greece: Revisiting the Jones Hypothesis in an Era of Interdisciplinarity' in *Minerva*, 53 (4) (December 2015), pp. 327-358 (p. 332).

²⁷ William Wotherspoon Ireland, *Golden Bullets: A Story in the days of Akber and Elizabeth* (Edinburgh: Bell and Bradfute, 1890), pp. iii-x.

²⁸ M. Thompson, 'Ireland, William Wotherspoon (1832-1909), physician and writer', *Oxford Dictionary of National Biography* [online], URL: <https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-34111>. [Accessed 7 July 2020].

²⁹ Glasgow, Royal College of Physicians and Surgeons of Glasgow. The Ross Collection. 9/LIT/2/4/13. 'Sir Ronald Ross and Remington and Co. – correspondence. 7 November 1889.

Pedro the Torero (1889) which was also published by Remington and Co., confirms Ross's success as a romancer.³⁰ On 4 December 1889, Eden writes that he had read *The Child of Ocean* with 'the greatest interest' and that 'Besant, Haggard and all are agreed that you have a great future before you.'³¹ Despite this, the publishers told Ross that *The Child of Ocean* was a failure, having only sold 200 out of 1000 copies printed by April 1890.³² Gibson and Nye explain that 'Ross was most annoyed [...] and refused to pay the £60 which they alleged that he owed them'.³³ After they complained to Ross's mother, Ross sent £10.16s to Remington, who then threatened to inform his employers.³⁴ Finally, Ross decided to send all relevant documents to his solicitor friend, Alfred Dashwood, and letters from Remington ceased. Gibson and Nye note that, upon Remington's bankruptcy in 1920, all copies of *The Child of Ocean* had sold out.³⁵

Lack of sales surprised Ross because of the considerable positive press attention the novel gained.³⁶ *The Standard* praised the novel as a 'remarkable' work 'of real genius'.³⁷ *The Morning Post* offered a mixed review concluding that Part Two, which details the development of Leda and John's relationship, could have 'stood by itself' as 'a romance of the sea'.³⁸ *Rod and Gun* noted that similar work can be 'found in Mr Haggard's *She*'.³⁹ *Woman* declared the novel 'one of the most exciting and vividly-told stories [they] [had] read for some time'.⁴⁰ Positive reviews positioning Ross in relation to well-established romancers were used to enhance advertisements. Advertisements found in *The Morning Post*, which quoted from a review in the *World*, highlighted the novel as

³⁰ Glasgow, Royal College of Physicians and Surgeons of Glasgow. The Ross Collection. 9/LIT/2/4/11. 'Sir Ronald Ross and Remington and Co. – correspondence'. 4 September 1889.

³¹ Glasgow, Royal College of Physicians and Surgeons of Glasgow. The Ross Collection. 9/LIT/2/4/14. 'Sir Ronald Ross and Remington and Co. – correspondence'. 4 December 1889.

³² Gibson and Nye, *Ronald Ross*, p. 196.

³³ *Ibid.*, p. 196.

³⁴ *Ibid.*, p. 196.

³⁵ *Ibid.*, p. 196.

³⁶ Ross, *Memoirs*, p. 85.

³⁷ Anonymous, 'Christmas Books', *The Standard*, 5 December 1889, 2 (p. 2).

³⁸ *Ibid.*, p. 3.

³⁹ Glasgow. Royal College of Physicians and Surgeons of Glasgow. The Ross Collection. 9/LIT/2/4/76. 'Press Cuttings'. Various dates.

⁴⁰ *Ibid.*

‘an exciting history of danger and adventure’, noting that ‘the writer of these scenes in the Andaman Islands should yet write a book which will make him, perhaps as famous in his own particular line as the authors of “Treasure Island” and “She” are in theirs’.⁴¹ Ross’s branding through the novel then was a success: according to reviews, which advertisements for the novel endorsed, *The Child of Ocean* fashioned Ross as a burgeoning romancer.⁴²

Other reviews, while still mostly positive, identified problems with the novel that resonate with F. V. White’s earlier remarks. *England’s* review of *The Child of Ocean* questions Ross’s identity, suggesting that Ross may in fact be some well-known author in disguise, highlighting Ross’s obscurity as a public figure: ‘Ronald Ross is probably a *nom de plume*, but, whoever the writer is, he has a touch of genius in him which [...] ought to make a considerable mark in the fiction of the day’.⁴³ From then on, the review only refers to Ross in inverted commas, implying the veracity of their claim. The review continues by speculating on why the author might be in disguise: ‘we imagine that what the author wanted was an opportunity of writing a partly physiological and partly metaphysical story upon the relation of the sexes in a wild untrammelled state. [...] Mrs Grundy will be shocked’.⁴⁴ Similarly, *The Liverpool Courier* declares the novel ‘a wonderful romance. [...] It contains some incidents that may be objectionable in the eyes of Mrs Grundy, but by readers who are not over-fastidious this feature will be accepted as necessary to the story’.⁴⁵ Mrs Grundy, a character originating from the play *Speed by Plough* (1798), is here meant to signify the ‘personification of the tyranny of social opinion in matters of conventional propriety’.⁴⁶ These reviews then raise the question:

⁴¹ Anonymous, ‘The Child of Ocean’ in *The Morning Post*, 10 March 1890, 4 (p. 4).

⁴² For advertisements that relate *The Child of Ocean* to contemporaneous scientific romances, see Anonymous, ‘The Child of Ocean’ in *The Morning Post*, 10 March 1890, 4 (p. 4); Anonymous, ‘Advertisements & Notices’ in *Pall Mall Gazette*, 18 February 1890, 1 (p. 1).

⁴³ Glasgow. Royal College of Physicians and Surgeons of Glasgow. The Ross Collection. 9/LIT/2/4/76. ‘Press Cuttings’. Various dates.

⁴⁴ *Ibid.*

⁴⁵ *Ibid.*

⁴⁶ *Ibid.*

what cultural work was Ross doing in the novel, or what didactic operations are at play, which could be said to have upset ‘conventional propriety’? As will be argued later in the chapter, Ross’s novel indeed challenges the supposedly scientific foundations of ‘conventional propriety’ by portraying characters’ medical and scientific ignorance, forms of ignorance which are also presented as barriers to empire. The next section foregrounds these arguments by considering how Ross self-fashions as a scientific authority through the development of the narrator’s medico-scientific gaze.

The Medico-Scientific Gaze

Despite being an obscure colonial surgeon, Ross clearly presents himself as a scientific authority at the opening of the novel by offering a quasi-anthropological description of the native Andamanese people. The narrator notes the natives’ height (‘about five feet’), their weight (‘about one hundred pounds’), and their build (‘muscles exquisitely fined down, skin black as night, [...] like diminished negroes’).⁴⁷ David Arnold describes this kind of examination as a method used by travel writers to take hold of a particular area:

[The travelling gaze] enables us to take the Foucauldian gaze well beyond the physical confines of the prison. [...] Travel (and the subsequent production of scientific texts, travel narratives, or works combining elements of both genres) was one of the principal ways in which India was captured not just for empire, but also for science.⁴⁸

Ross’s mimicking of the travelling gaze in the narration resonates with contemporaneous physician-writers and their scientific romances, where it is used to create an authentic, authoritative tone. Published just one year after Ross’s publication of *The Child of Ocean*, Arthur Conan Doyle’s *The Sign of Four* (1890) provides one similar example.

⁴⁷ Ross, *The Child of Ocean*, p. 53.

⁴⁸ David Arnold, *The Tropics and the Traveling Gaze: India, Landscape, and Science, 1800-1856* (Washington: University of Washington Press, 2006), p. 30.

Sherlock Holmes, who critics such as Douglas Kerr have identified as representing the pinnacle of late nineteenth-century medico-scientific reasoning, takes a book from his shelf and begins to read to John Watson: the ‘aborigines of the Andaman Islands’ are ‘the smallest race upon this earth’, ‘naturally hideous’, with ‘large, misshapen heads, small, fierce eyes, and distorted features.’⁴⁹ Aparna Vaidik marks out the Andaman Islands as a landscape contemporaneously depicted as ‘wild, unincorporated and uncivilised space ripe for Britain to control, incorporate and civilise’.⁵⁰ This conceptualisation continued despite the fact that the Andaman Islands were, by the time of Ross’s novel, a British penal colony.⁵¹

During the quasi-anthropological detailing of the Andamanese, the narrator notes their use of mud, speculating that it is a prophylactic measure against malaria: ‘Dirt, however, may be useful, since it takes a mosquito a long time to bore through a coating of this material. Hence the Andamanese paint themselves with mud’.⁵² This may have been a measure that Ross witnessed first-hand, as he notes in *Memoirs* his great interest in watching the Andamanese men: ‘it was amazing to observe the instincts of these little men of five feet in height’.⁵³ Indeed, according to Rann Singh Mann this method of prevention occurs today: the Andamanese ‘apply their indigenous methods of curing disease. The most common method of treatment [...] is to use clay. [...] [C]lay [...] [has] medicinal value and [is] used for cure as well as prevention.’⁵⁴ Ross then attributes a kind of primitive scientific mentality to the Andamanese, promoting their ingenuity, whilst also implicitly showing himself to be a scientific authority. He uses his medical gaze to

⁴⁹ See Douglas Kerr, *Arthur Conan Doyle: Writing, Profession, and Practice* (Oxford: Oxford University Press, 2013), pp. 129-130; Arthur Conan Doyle, ‘The Sign of Four’ in *A Study in Scarlet and The Sign of Four* ed. by Edward Stuart Davies (London: Wordsworth Classics, 2004), 109-204 (pp. 162-163).

⁵⁰ Aparna Vaidik, *Imperial Andamans: Colonial Encounter and Island History* (New York: Palgrave Macmillan, 2010), p. 33.

⁵¹ Ross, *Memoirs*, pp. 66-67.

⁵² Ross, *The Child of Ocean*, p. 54. Emphasis mine.

⁵³ Ross, *Memoirs*, p. 70.

⁵⁴ Rann Singh Mann, *Andaman and Nicobar Tribes Restudied: Encounters and Concerns* (New Delhi: Mittal, 2005), p. 59.

view them before disseminating the medical knowledge he has gleaned through his romance. Based on the Andaman's popular conceptualisation as wild, unknown territory and the Andamanese people as a mysterious primitive civilisation who have had to use special measures to live in this territory, it seems little wonder that, as the next section will argue, the novel highlights the necessity of scientific mastery and the dissemination of medical knowledge to preserve British health.

Medical and Scientific Ignorance as Barriers to Empire

The relationship between Leda and John is one of the main vehicles through which Ross conveys the relevance of medical knowledge to British health and the progress of empire. During John's struggle with his unrequited love for Leda, she discovers him wracked with guilt for secretly watching her sleep. John is pacing 'to and fro almost wildly. [...] He could not eat; he could not remain still, he could not remain in the presence of the waking Leda'.⁵⁵ Leda frantically tries to think of the cause of John's restlessness:

[Y]ou are not going to get fever, are you? You must begin quinine tomorrow. There is plenty in the captain's medicine chest. Why do you jump when I touch you? I am not a red-hot poker, am I? on my word, I think you are going mad. You are not in love with me, are you? You are nervous from drinking tea, I believe.⁵⁶

Attempting to relieve John through the administration of quinine, a popular drug used to fight malaria, Leda implies that malaria may be the cause of his agitation. However, Leda also bombards John with three further rhetorical questions, suggesting that his restlessness could be a symptom of madness, lovesickness, or over consumption of tea. Thus, Ross makes implicit Leda's naivety and probable incapability when faced with potential tropical diseases.

⁵⁵ Ross, *The Child of Ocean*, p. 155.

⁵⁶ *Ibid.*, p. 155.

Leda's lack of medical knowledge becomes troublesome when she develops malaria. The narrator describes the illness as 'a fever of the jungles'.⁵⁷ Indeed, the term malaria is never mentioned explicitly in the novel. Ross understood 'jungle fever' as a term often used by the public to describe malaria. In his guide for Europeans heading to the tropics, *Malarial Fever: Its Cause, Prevention, and Treatment* (1902), Ross notes his frustration with public lack of understanding of malaria while explaining that '[m]alarial fever is known under many other names. It has been called [...] marsh fever, jungle fever, and telluric fever. [...] All these denote the same thing'.⁵⁸ As her symptoms begin, Leda 'shiver[s] violently' with a 'fiery fever' consuming her 'from head to heel'.⁵⁹ According to the narrator, Leda

was very sick, and thought she was going to die. As the heat of the day increased, the cold fit was succeeded by the hot fit. Her head was aching intensely, and the temperature in the close cabin was very high. Her face felt as if stung by flies.⁶⁰

These symptoms correlate with Ross's description of malaria in *Malarial Fever: Its Cause, Prevention, and Treatment*, as he explains that first comes 'a chill accompanied by a fever. The chill may sometimes be [...] so severe as to cause a violent fit of shivering, called a *rigor*'.⁶¹ A few hours after the presentation of 'rigor', 'the sick man complains of burning fever'.⁶² In the novel, the narrator explains that Leda's 'limbs, her brain, her heart ached'.⁶³ Howell notes a similar onset of symptoms in Schreiner's *The Story of an African Farm* (1883): malarious characters 'drift into and out of altered states of consciousness, which are marked by fever and chill, headache and heartache, and hallucinations'.⁶⁴ Ross does not mention delirium in his guidebook; however Leda is

⁵⁷ Ross, *The Child of Ocean*, p. 172.

⁵⁸ Ronald Ross, *Malaria: its cause, prevention, and treatment* (Liverpool: University of Liverpool, 1902), p. 1.

⁵⁹ Ross, *The Child of Ocean*, p. 172, p. 174.

⁶⁰ *Ibid.*, p. 172.

⁶¹ Ross, *Malaria: its cause, prevention, and treatment*, p. 3.

⁶² *Ibid.*, p. 3.

⁶³ Ross, *The Child of Ocean*, p. 173.

⁶⁴ Howell, *Malaria and Victorian Fictions of Empire*, p. 122.

described as delirious: '[h]er thoughts were like spectres, her reason like one lost in a haunted churchyard'.⁶⁵ Leda then is both literally and metaphorically lost, incapable of returning home or interpreting the symptoms of malaria.

Leda's lack of medical knowledge and her delirium cause her to lash out at John. Sitting in the cabin of the wrecked ship she arrived on, 'an inner light began to illumine her mind, shining out from letters of fire, which formed one word – "Cannibal."' ⁶⁶ Discussing *Robinson Crusoe*, a text often referenced in *The Child of Ocean*, Patrick Brantlinger explains that 'cannibalism is the absolute nadir of human behaviour; it is practiced by black or brown savages but not by white Christians, who are horrified by it'.⁶⁷ Her confusion and delirium then has resulted in Leda pivoting from viewing John as a burgeoning love interest to identifying him as savage. Leda imagines John 'was some criminal set here originally to expiate his crime. [...] Leda's imagination figured him as a beast again, naked and hirsute'.⁶⁸ This incorrect assumption about John makes him subhuman in Leda's eyes, so she repeatedly refuses to allow him to provide her with sustenance during her illness, worsening malaria's impact.⁶⁹ Eventually, when she does leave one evening, it is only in an attempt to shoot John. The narrator emphasises and mocks her certainty in her misguided conviction: 'never had she before, like a politician, come so easily to her conclusions without reasoning.'⁷⁰ She arrives at John's grotto 'in delirium', and 'fired a pistol almost into his eyes'.⁷¹ Before she can manage a successful shot, John grabs her. In response, Leda becomes 'like a wild cat, [she] bit and scratched him, shrieking fearfully [...] [John] clasped [her] burning little hands' at which point she falls unconscious. John cares for her through the night, carefully explaining what

⁶⁵ Ibid., p. 173.

⁶⁶ Ibid., p. 173.

⁶⁷ Patrick Brantlinger, *Taming Cannibals: Race and the Victorians* (Ithaca: Cornell University Press, 2011), pp. 2-3.

⁶⁸ Ibid., p. 176.

⁶⁹ Ibid., p. 175.

⁷⁰ Ibid., p. 175.

⁷¹ Ibid., p. 177.

happened when she wakes up confused. The illness has ‘left her thinner and paler than before, and with a pain in the left side; but most of the black fancies of her delirium were swept away’.⁷² Recent medical literature has identified this ‘pain in the left side’ as a pathological splenic rupture; ‘a rare complication of acute malaria attacks’.⁷³ While later occurrences of fever are not clear in the novel, the narrator does suggest that ‘[i]n fact there were several returns of the jungle fever, and she was lucky in not having it worse. But perhaps women suffer from malaria less than men’.⁷⁴ Howell notes that ‘malaria functions as a testing ground for character and constitution: a rite of passage that an explorer must survive before accessing the riches of empire’.⁷⁵ Referencing *King Solomon’s Mines* (1885), Howell explains that Quartermain quickly recovers from malaria and that, later in the novel, Haggard displaces ‘disease anxiety onto racial and national others’, with malaria being used ‘retributively to eliminate the representations of colonial rivals’.⁷⁶ This is not the case with Ross’s debut novel: rather than malaria acting as a rite of passage, an event which Leda can quickly overcome, it is suggested that Leda will suffer long-term damage as a result of her illness. Furthermore, rather than being displaced onto others, Ross presents malaria as an issue for British health. The character of Leda allows for a dramatisation of the popular (mis)understanding of malaria, highlighting colonisers’ contemporaneous lack of definitive knowledge about the cause, symptoms, and even name for the disease.

Scientific ignorance, anxiety, and misunderstanding are regularly showcased in Ross’s debut novel as a way in which to mock scientific illiteracy and promote the necessity of scientific education for British health. Leda’s misunderstanding of science is made clear when she is teaching John. Before divulging Leda’s lessons for John, the

⁷² Ibid., p. 178.

⁷³ Patrick Imbert, Pierre Buffet, Cecile Ficko, Christophe Rapp, ‘Left upper quadrant abdominal pain in malaria: suspect pathological splenic rupture first’, *Transactions of The Royal Society of Tropical Medicine and Hygiene*, 104 (9) (September 2010), 628-629 (p. 628).

⁷⁴ Ross, *The Child of Ocean*, p. 178.

⁷⁵ Howell, *Malaria and Victorian Fictions of Empire*, p. 80.

⁷⁶ Ibid., p. 78., p. 81.

narrator addresses young female readers to make clear that their hubris is being teased. The narrator sarcastically notes that ‘a certain recent writer’ has dubbed ‘young ladies [...] the wisest of mankind, being at once the acutest politicians, the profoundest philosophers, the subtlest critics, and possessing always exemplary conduct’.⁷⁷ As a result of this discovery, the narrator explains that they ‘should err in not affording the reader instruction from the lips of so fine a sample of her sex as Leda’, but that these lessons have been siloed within the following three chapters so that similarly well-educated women who, ‘already knowing all that is to be known’, wish to pass over them, may do so.⁷⁸ In the following chapter, Leda explains the solar system to John, concluding the lesson by stating that ‘the moon goes round the earth’; John adds ‘so does the sun’.⁷⁹ Leda disagrees and explains Newton’s use of the telescope to confirm Copernicus’s heliocentric solar system. According to Leda, Isaac Newton (1643-1727) proclaimed his research to unbelievers and, in retaliation; they ‘threw him into the Spanish Inquisition’.⁸⁰ Leda recalls that Newton was forced to recant his theories, wrote a confession with his right hand, immediately denounced the confession, and was thrown into fire where he burned his right hand first as punishment for denouncing his scientific knowledge.⁸¹ Leda’s account of Newton’s death is confused. In fact, Newton died at the age of eighty-four having endured five years of various serious illnesses.⁸² Leda then conflates Newton’s life with the life of both Thomas Cranmer (1533-1555), an Archbishop of Canterbury killed for being part of the English Reformation, and Galileo Galilei (1564-1642), whom the Spanish Inquisition accused of heresy for his work on heliocentrism.⁸³

⁷⁷ Ross, *The Child of Ocean*, p. 135.

⁷⁸ *Ibid.*, p. 135.

⁷⁹ *Ibid.*, p. 137.

⁸⁰ *Ibid.*, p. 137.

⁸¹ *Ibid.*, p. 138.

⁸² Richard S. Westfall, ‘Sir Isaac Newton’, *Encyclopaedia Britannica*, URL: <https://www.britannica.com/biography/Isaac-Newton> [Accessed: 20 August 2018]

⁸³ Diarmaid MacCulloch, ‘Cranmer, Thomas (1489–1556), archbishop of Canterbury’, *Oxford Dictionary of National Biography*, URL: <http://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-6615> [Accessed: 2 November 2018].

Blending these stories together, Leda exposes her naivety. The reader, while understanding that Leda is well meaning, seems to be invited to tease women like Leda for their misunderstanding.

Leda appears anxious when confronted with the potential realities of Darwinian theory. While teaching John about Adam and Eve, Leda comes to suspect that John could be the evolutionary missing link ('a fabled creature that lay between mankind and the apes from which [...] man had gradually evolved').⁸⁴ Leda explains:

There is a man of science who says, however, that all men are descended from monkeys; but I don't believe him. He is a nasty brute, and I am sure that I have nothing to do with an ape. Good heavens, [John]! I never thought of it before, but *you* may be the Missing Link!⁸⁵

She proposes that John is the missing link and that the 'nasty brute', Charles Darwin, may be correct. Her sudden change of heart based on her suspicion about John's origins shocks her, as Fraser notes that 'the most extreme anxieties were provoked by the idea that, in some unexplored part of the world, the link might actually be found alive'.⁸⁶ In the original draft of the novel, Ross was happy to leave John's origins unclear: he only added John's origin story, casting him as the sole survivor of a plundered missionary ship, after discussing the plot with a sailor during his voyage to England seeking publication.⁸⁷ In *Memoirs* he explains that 'the effect was inartistic, and the Prelude was adopted only tentatively'.⁸⁸ This anecdote adds credence to the possibility that the original didactic function of the romance may have been to cast John as a primitive, prehistoric man enlightening the scientifically naïve and anxious readership, represented by Leda. In *Man's Place in Nature* (1863), Thomas Henry Huxley describes the realisation of humankind's relation to apes: 'face to face with these blurred copies of

⁸⁴ Fraser, p. 71.

⁸⁵Ross, *The Child of Ocean*, p. 140.

⁸⁶ Fraser, p. 71.

⁸⁷ Ross, *Memoirs*, p. 84.

⁸⁸ *Ibid.*, p. 84.

himself, the least thoughtful of men is conscious of certain shock'.⁸⁹ Without the prelude documenting John's origins, Leda's realisation might be read as Darwinian propaganda: Ross's novel could be said to confront the hubristic and naive young woman with potential evidence for the theory of evolution. However, because of the 'turgid' prelude of the novel, readers understand John's origins, and so the romance's possible Darwinian didacticism ends up somewhat muddled.

In its published form, *The Child of Ocean* does still function as Darwinian propaganda through the chapter 'Civilisation'. In this chapter, Ross momentarily stalls the story of Leda and John to provide an extended meditation on uncaring nature:

do you think that Nature, in the computation and ordination of her laws, took any account of the pain or pleasure of her stones and her animals? [...] The simple laws of matter build and destroy, create, vaporize, exhalate, nor care about pain.⁹⁰

Ross's description of uncaring nature clearly resonates with Tennyson's representation in 'In Memoriam' (1850), which Ross admits to being influenced by when it came to his poetical writings around the same time he wrote *The Child of Ocean*.⁹¹ Virginia Zimmerman notes that Tennyson's nature "red in tooth and claw" was 'a world governed by geological time. In such a world human lives are utterly insignificant and [...] order has nothing whatsoever to do with humanity'.⁹² Published nine years after Tennyson's epic poem, Darwin's *On the Origin of Species* (1859) provided resonant images of 'gladiatorial struggle and of nature "red in tooth and claw" [...]. The contented face of nature, Darwin once wrote, was but a mask'.⁹³ During this narrative break implicit didactic operations are dropped for explicit proselytising about the importance of this essential truth regarding uncaring nature.

⁸⁹ Thomas H. Huxley, *Man's Place in Nature* (New York: Dover, 2003), p. 73.

⁹⁰ Ross, *The Child of Ocean*, pp. 302-303.

⁹¹ Ross, *Memoirs*, p. 50, p. 70.

⁹² Virginia Zimmerman, *Excavating Victorians* (New York: SUNY Press, 2009), p. 76.

⁹³ Valerie Purton, *Darwin, Tennyson and Their Readers: Explorations in Victorian Literature and Science* (London: Anthem Press, 2014), p. 71.

‘Civilisation’ functions in one way as Darwinian propaganda by encouraging this view of uncaring nature, but it also works to set-up a juxtaposition that the novel later undermines, in a potent critique of the misapplication of contemporary scientific theories. At the conclusion of ‘Civilisation’, the narrator declares: ‘It is Civilisation. Compare [...] the brute or the wild-man with the civilised being, and what an immense interval we have’.⁹⁴ Moving forward from the narrative break, readers are made to interrogate the supposed ‘immense interval’ between ‘the brute’ and ‘civilised beings’ when Leda’s adoptive parent, Lord Vanburgh, arrives to rescue her. While Leda is hubristic and naive, Vanburgh appears scientifically misguided and classist, evident through his distortion of eugenic theory. Worried about the union of Leda and John for his own aristocratic status in society (even though he is later revealed to be the ‘grandson of a Dutch pork-butcher living in Smithfield’), Vanburgh consistently speaks about the relationship in a derogatory manner.⁹⁵ According to Gillian Beer ‘one of the lurking fears [Darwin’s theory] conjured was miscegeny – the frog in the bed’.⁹⁶ Paul Fayter explains that, during the 1880s and 1890s, Francis Galton’s ‘eugenics project’ played into ‘English fears of social and biological degeneration. The “wrong kind” of people were breeding like rabbits. Victorian gentlefolk were facing an invasion of the poor and inferior from below’.⁹⁷ Vanburgh’s character then works to dramatise this misguided notion from English aristocracy of ‘invasion [...] from below’. Arriving on the Andaman Islands to find that his adopted daughter has spent two years in the company of a feral man of seemingly unknown origins, Vanburgh unleashes his fear regarding social degeneration. Vanburgh compares the couple to a pair of racehorses, asking: ‘what is the horse but for his pedigree?’⁹⁸ Later he extends the horse metaphor:

⁹⁴ Ross, *The Child of Ocean*, p. 304.

⁹⁵ *Ibid.*, p. 330.

⁹⁶ Gillian Beer, *Darwin’s Plots: Evolutionary Narrative in Darwin, George Eliot and Nineteenth-Century Fiction* (Cambridge: Cambridge University, 2000) pp. 9-10.

⁹⁷ Paul Fayter, ‘Strange New Worlds of Space and Time: Late Victorian Science and Science Fiction’, *Victorian Science in Context* (Chicago: University of Chicago Press, 1997), 256-282 (p. 262).

⁹⁸ Ross, *The Child of Ocean*, p. 330.

What do we mean by the breeding of a horse? See – his parents being chosen for speed, he is born; and almost from his birth is trained to excel in that quality which is desired of him; so that birth and bringing up concur in the production of his excellence.⁹⁹

Vanburgh describes Leda as a ‘ward of Chancery’, meaning that, since her parents have died and she is to receive a considerable sum of money, the courts have assumed responsibility for her inheritance, which they have passed on to her uncle.¹⁰⁰ The Vanburghs’ then are identified as part of the wealthy British upper class, who prime their children to be matched with a suitable spouse. Leda is of a certain ‘pedigree’, and so potential suitors must be of a similar class or ‘speed’ in society. While Leda supposedly epitomises excellence, Vanburgh cannot ascertain John’s parentage: he bluntly asks John ‘[w]here is my guarantee?’¹⁰¹ The remarks made by Leda’s uncle distorts contemporaneous research conducted by eugenicist Galton, and Darwin’s son, George Darwin (1845-1912). Galton believed that ‘only if the *intellectual* cream of the crop intermarried would it be possible to avoid regression to the mean.’¹⁰² Staffan Müller-Wille and Christina Brandt examine intellectual intermarriages amongst the elite Darwin family, explaining that, including Darwin and Emma Wedgwood’s marriage in 1838, there were four first-cousin marriages between the Darwin and Wedgwood families.¹⁰³ This rate of intermarriage was unremarkable among the English bourgeoisie. Indeed, these prominent consanguineous marriages served as shining examples of the advantageous nature of first-cousin marriage: ‘reinforced by the ubiquity of the Darwin-Wedgwood pedigree’ the marriages illustrated ‘the potential virtues [...] of marrying one’s cousin’.¹⁰⁴ These examples stand in stark contrast to Leda’s potential for social

⁹⁹ Ibid., p. 343.

¹⁰⁰ Ibid., p. 319.

¹⁰¹ Ibid., p. 330.

¹⁰² Staffan Müller-Wille and Christina Brandt, *Heredity Explored: Between Public Domain and Experimental Science, 1850–1930* (Boston: MIT Press, 2016), p. 59. Emphasis mine.

¹⁰³ Ibid., p. 59.

¹⁰⁴ Ibid., pp. 57-58.

degeneration. Leda's uncle tells her that she does 'not recognise the gravity of [her] situation. [She] will simply not be received in society' if she confronts these beliefs by marrying John.¹⁰⁵ Vanburgh interprets eugenics as a way in which to maintain or improve social standing in England rather than his family's 'intellectual' prowess, meaning that the couple's marriage can only result in Leda's regression, the regression of her family, and potentially the social degeneration of upper-class English people.

Lord Vanburgh uses visceral descriptions of blood and chains to emphasise his disgust at the idea of Leda marrying someone of a lower class. He probes John: 'In marrying my daughter to you, how can I tell that I do not mingle my blood with the blood of rogues?'¹⁰⁶ Blood is referenced again when he condescends to Leda about her choices: 'Every link of the chain is independent is it not? No – why? Because if it be broken the whole chain is broken. So you, Leda Vanburgh – will you defile your blood?'¹⁰⁷ With these questions, Lord Vanburgh makes clear his outdated understanding of inheritance. He espouses Aristotle's conceptualisation of a chain of progress: an earlier 'static model which precludes change and development'.¹⁰⁸ Unlike the chain, the evolutionary "tree" which Darwin established, allows for movement and change.¹⁰⁹ While Leda's encounter with John encourages her to question her understanding of science, her uncle's confrontation with a supposed savage further entrenches his anachronistic views and misinterpretation of eugenic theory. His understanding of the chain of progress also suggests that Leda is in chains, shackled to societal expectations of her class and sex. Vanburgh further claims that 'every woman has a duty to perform – to preserve [her blood] for her race'.¹¹⁰ Overall then, Vanburgh explains that, by marrying John, Leda

¹⁰⁵ Ross, *The Child of Ocean*, p. 323.

¹⁰⁶ Ross, *The Child of Ocean*, p. 330.

¹⁰⁷ *Ibid.*, p. 331.

¹⁰⁸ Richter, p. 21.

¹⁰⁹ *Ibid.*, p. 21.

¹¹⁰ Ross, *The Child of Ocean*, p. 331.

would be renouncing her womanhood, breaking the carefully crafted family chain; and rejecting English high society for which she was bred.

Near the end of the novel, Lord Vanburgh's snobbery and hypocrisy is laid bare for the reader. After being coerced into leaving John behind, Leda decides to board the ship, tell the Captain, and have them all return for John so that she can bring him to India. Vanburgh, happy to leave John to live and die alone on the island rather than rescue him, remarks that 'it is not much for the servant to die for the master'.¹¹¹ Leda then 'point[s] with a quivering forefinger to her uncle' and exclaims:

"John, do you see that man? Who would believe, to hear him talk about ancestors, and blood, and the rest of it, that he was the grandson of a Dutch pork-butcher living in Smithfield? Yes, a pork-butcher! Uncle, you have been talking rubbish [...] you know it, and I know it, [...] and all the other men know it!"¹¹²

Lord Vanburgh's behaviour is denounced here as Leda makes clear that the family chain he holds so dear is merely an illusion. Despite this revelation, Leda is still forcibly taken to the ship without John. As soon as she boards the ship, she notifies the Captain that a man has been left behind, as a result of which they return for John. Discovering John dead, the Captain explains that someone must stay with the body, since they cannot all fit on the small boat that transports them from the islands to the ship with it. The Captain insists that Leda's uncle stays, insinuating that he should take his own life by referencing Lord Vanburgh's revolver as 'a useful weapon' and refusing to shake his hand as they leave.¹¹³

Alone on the island, Lord Vanburgh has a series of revelations about his wrongdoing, clearly laying out the didactic operations of the novel:

why the strut, the stare, the heart-wounding coldness? It is unnecessary, unmanly. [...] I have befooled myself; have killed one, and made another hate me. [...] This

¹¹¹ Ibid., p. 331.

¹¹² Ibid., p. 330.

¹¹³ Ibid., p. 342.

is not solitude, I think; for there are living things about me listening to me. Let them listen. Pride feeds on lies on fire, and is itself its own torment.¹¹⁴

He then shoots himself before the boat returns. Lord Vanburgh's unmanliness is cast in opposition to John, who is variously described as having a 'great [...] head', 'great limbs', being 'so large', having 'locks like the mane of a lion', and 'great muscles [on] his back, neck, and shoulders [...] knotted with the exertion of his stealth'.¹¹⁵ Bradley Deane notes that this kind of 'powerful body became a fixation of late Victorian culture, and it is virtually ubiquitous in lost-world fiction'.¹¹⁶ Ross clearly indicates his disapproval of Vanburgh and his praise for this rugged masculine feral man: the supposed 'civilised being' has been compared to 'the wild brute' and it is the 'civilised being' that is found wanting. The didactic operations of *The Child of Ocean* then indicate that peak biological fitness is to be preferred over perceived social status. The tragedy of the novel then is that, due to English naivety and ignorance regarding medical and biological knowledge, dramatised by Leda, English health is at immediate risk of malaria and, due to English arrogance and scientific misunderstanding, highlighted through Lord Vanburgh, England is at long-term risk of degeneration.¹¹⁷

Publishing *The Spirit of Storm*

Returning from India to London during his second IMS furlough in March 1894, Ross 'immediately took steps regarding [his] studies on malaria' by meeting with and learning from parasitologist Patrick Manson, while also penning his second romance, *The Spirit of*

¹¹⁴ Ibid., p. 344.

¹¹⁵ Ibid., p. 65, p. 66.

¹¹⁶ Deane, *Masculinity and the New Imperialism*, p. 161.

¹¹⁷ Chapter Three of this thesis, examining Ross's poetic corpus, provides further evidence of Ross's preoccupation with the degeneration of the British Empire. His *Philosophies* (1910) collection makes clear his fear that the degenerative state of India could also come to pass in Britain. Furthermore, the work of Christopher Baron and Christopher Hamlin evidences Ross's fascination with the downfall of the Roman Empire in relation to degeneration: they describe Ross as being 'infected with imperial anxiety'.

Storm.¹¹⁸ Unlike *The Child of Ocean*, archival material related to Ross's second novel is scarce. One of the few items retained is a series of British Library tickets from a visit during his furlough, evidencing Ross's interest in the Haitian Revolution (1791-1804).¹¹⁹ Using the revolution as a backdrop, *The Spirit of Storm* follows John Chesham, a British colonist working in the West Indies during the revolution, who becomes melancholic and sick from malaria, accusing his wife of infidelity. Chesham demands that their child, Percival, be brought from England to the West Indies so that he can check for a genetic defect (webbed toes) which could confirm his suspicions of adultery. Accompanied by dutiful Colonel Lord Tringham, Percival completes the treacherous journey to meet his father, who almost murders him before Percival's webbed toe is revealed. At the conclusion of the novel, Tringham convinces the family to reunite and return to England to recover from the ordeal. This section argues that, as with *The Child of Ocean*, Ross's second novel imparts medical knowledge and dramatises the relevance of that knowledge to imperial health and prosperity. More specifically, *The Spirit of Storm* illustrates the importance of tropical medicine as a specialism, as it depicts the pathological dangers of life in the tropics and the importance of preserving colonists' health to ensure the strength of the empire.

According to *Memoirs*, *The Spirit of Storm* was a greater success than *The Child of Ocean*. Ross explains that, '[w]arned by previous experiences, [he] had mixed more of the jam of convention with the powder of art in [*The Spirit of Storm*]; and it was therefore speedily accepted (March 1895) by Methuen & Co.' and published in 1896.¹²⁰ Perhaps it was this change of tack that also made Ross's second novel his most financially successful, selling out the entire edition of 2,000 copies and earning him £17. 7s. 11d.¹²¹

¹¹⁸ Ross, *Memoirs*, p. 103.

¹¹⁹ Glasgow, Royal College of Physicians and Surgeons of Glasgow. The Ross Collection. 9/LIT 7/1/2. 'British Library Tickets for *The Spirit of Storm*'. Undated.

¹²⁰ Ross, *Memoirs*, p. 106.

¹²¹ Gibson and Nye, *Ronald Ross*, p. 197.

As with *The Child of Ocean*, his Anglo-Indian status was questioned on the publication of this novel: in *Memoirs*, Ross claims ‘one publisher’s reader of the comfortable stay-at-home type, had actually suggested that the end of the book (which was “happy,” though not conventional) should be given yet another ending of an appallingly mawkish type.’¹²² Contemporaneous reviews echo this reader’s view, all highlighting excess horror. The *Glasgow Herald*’s review proclaims that ‘if anyone really wishes to sup his fill of sea horrors [...] he may go with confidence to the “Spirit of the Storm”’.¹²³ However, the review notes difficulties with following the novel as a result of a chaotic plot: ‘it is at first just a little difficult to find out what all the plotting and fighting and drugging and attempts at murder are about’.¹²⁴ The review ends by warning readers: ‘it is scarcely a tale even those who are not squeamish would consider quite fit reading for youths and maidens’.¹²⁵ This concluding note resonates with reviews of *The Child of Ocean* suggesting that it would displease Mrs Grundy. The overall positive review from the *National Observer*, which Ross presents in full in his *Memoirs*, wished ‘that Mr Ross had kept clear of studying insanity. Chesham is irrational to the verge of madness’.¹²⁶ On the other hand, the *Manchester Guardian*’s mixed review identifies ‘real power in the portrayal of Chesham’s feelings [...]. A writer who can draw such a scene has gained some insight into human nature.’¹²⁷ The following section examines the novel’s didacticism, arguing that *The Spirit of Storm* identifies moral indiscretions as the catalyst for serious health risks in tropical colonies, which then leads to imperial instability.

¹²² Ross, *Memoirs*, p. 106.

¹²³ Anonymous, ‘Literature’, *Glasgow Herald* (17 October 1896), p. 9.

¹²⁴ *Ibid.*, p. 9.

¹²⁵ *Ibid.*, p. 9.

¹²⁶ Ross, *Memoirs*, p. 109.

¹²⁷ Anonymous, ‘Christmas Books’, *The Manchester Guardian* (19 December 1896), p. 9.

Madness and Malaria as Barriers to Empire

In Patrick Manson's seminal text *Tropical Diseases* (1898), published just two years after Ross's *The Spirit of Storm*, he mentions the potential lengthy adjustment period of white bodies to the tropics:

The European, it may be, on his first entering the tropics, and until his machinery has adjusted itself to the altered meteorological circumstances, is liable to slight physiological irregularities [...]. A predisposition to certain diseases, and a tendency to degenerative changes, may be brought about in this way.¹²⁸

Manson explains that these less severe 'physiological irregularities', 'diseases' and 'degenerative changes' are not included within the scope of his textbook, instead he wishes only to provide a compact 'manual' on acute diseases for colonisers: 'it makes no pretension to being anything more than an introduction to the important department of medicine of which it treats': it is 'not a complete treatise'.¹²⁹ In 1905, Lieutenant Colonel Charles E. Woodruff (1860-1915) would identify one of these 'degenerative changes' as 'tropical neurasthenia', an advancement of American neurologist George Beard's (1839-1883) work on 'neurasthenia'.¹³⁰ Tropical neurasthenia became an incredibly popular diagnosis from 1910 until after the First World War: '[i]n the Gold Coast [...] nearly as many of the colonial officials sent home as medical invalids suffered from tropical neurasthenia as from malaria'.¹³¹ Tropical neurasthenia was said to be caused by 'actinic rays', which were supposedly 'more damaging to light-skinned people of European

¹²⁸ Patrick Manson, *Tropical Diseases: A Manual of the Diseases of Warm Climates* (London: Cassell and Company, 1898), p. xii.

¹²⁹ *Ibid.*, p. xii.

¹³⁰ For more information on tropical neurasthenia see Charles E. Woodruff, *The Effects of Tropical Light on White Men* (New York: Rebman Ltd., 1905); Louis H. Fales, 'Tropical Neurasthenia and its Relation to Tropical Acclimation', *The American Journal of Medical Sciences*, 133 (4) (1907), pp. 582-592; Anna Crozier, 'What was Tropical and Tropical Neurasthenia? The Utility of the Diagnosis in the Management of British East Africa', *Journal of the History of Medicine and Allied Sciences*, 64 (4) (October 2009), pp. 518-548; Jessica Howell, *Exploring Victorian Travel Literature: Disease, Race and Climate* (Edinburgh: Edinburgh University Press, 2015), pp. 148-150.

¹³¹ Harald Fischer-Tiné, *Anxieties, Fear and Panic in Colonial Settings: Empires on the Verge of a Nervous Breakdown* (Switzerland: Palgrave Macmillan: 2016), p. 31.

heritage than to the dark-skinned indigenous inhabitants'.¹³² According to Harald Fischer-Tiné, this diagnosis, which draws from 'an older tradition of environmental determinism that sought climatic explanations for illness', provided new scientific reasoning for the long-held belief that the tropical climate was dangerous to European settlers.¹³³ This section argues that Ross dramatises these tropical 'degenerative changes', later more clearly defined by Woodruff, as well as malaria, later more clearly understood through his own medico-scientific research, highlighting the importance of tropical medicine as a specialism for the stability of the empire.

Ross's minor characters in *The Spirit of Storm* offer a dramatisation of 'degenerative changes' in the tropics. Lord Tringham, who accompanies young Percival Chesham from Port Royal to St Vincent, tells the story of Chesham's wife, Diana, and her previous unhappy marriage to Colonel Sinclair. Colonel Sinclair is said to have been 'strenuous, alcoholic, and intimidating' since at least 1778, when he took command of a British Army battalion during the American Revolution.¹³⁴ Alan Bewell acknowledges in relation to Joseph Conrad's *Heart of Darkness* (1899), the 'contemporary wisdom concerning the danger of tropical environments' was always to keep calm or, as Jon Hegglund explains, to retain a 'cool European demeanour'.¹³⁵ Sinclair's alcoholism and lack of emotional restraint eventually lead him to become paranoid, as he suspects 'men, officers, and wife [are] allied against him'.¹³⁶ Sinclair appears to suffer from what Woodruff would later define as 'tropical neurasthenia', identified in part by 'irritability, and, in the most extreme cases, insanity'.¹³⁷ Indeed, discussing a 1913 Royal Society of

¹³² Ibid., p. 31.

¹³³ Ibid., p. 31.

¹³⁴ Ronald Ross, *The Spirit of Storm: A Romance* (London: Methuen & Co., 1896), p. 31.

¹³⁵ Alan Bewell, *Romanticism and Colonial Disease* (Baltimore: Johns Hopkins University Press, 1999), p. 277; Jon Hegglund, *World Views: Metageographies of Modernist Fiction* (Oxford: Oxford University Press, 2012), p. 40.

¹³⁶ Ross, *The Spirit of Storm*, p. 31.

¹³⁷ Dane Kennedy, 'Diagnosing the Colonial Dilemma: Tropical Neurasthenia and the Alienated Briton', *Decentring Empire: Britain, India and the Transcolonial World*, ed. by Durba Ghosh and Dane Kennedy (Hyderabad: Orient Longman, 2006), 157-181 (p. 123).

Tropical Medicine and Hygiene lecture on tropical neurasthenia, Ross pointed to alcohol as one of three leading causes of tropical neurasthenia, alongside ‘intestinal parasitism’ and overeating: ‘The third is alcohol, [...] I feel that too much alcohol has the effect pointed out by’ the speaker, Surgeon-General R. Havelock Charles, who claimed that it ‘is a danger [...] it is a drug, [it] may be a luxury, never a necessity’.¹³⁸ The harmless yet inappropriate appearance of Hope in Sinclair’s garden exacerbates the Colonel’s tropical neurasthenia. According to Tringham:

A poor young lad named Hope, just joined and a consumptive, had been rash enough to write [Diana] a sonnet between his fits of coughing; and finally to sigh under her window in the garden. Sinclair, surrounded by servants and torches, rushes out, roaring and trumpeting as was his wont, tears the pale lover out of his gooseberry bush, beats him into a kind of pulp, and drives his wife out of doors in her nightdress.¹³⁹

Evident in his poetry, complexion, and illness, Hope represents archetypal European invalidism, identified by Bewell as ‘a sign of refinement, especially when linked to consumption’.¹⁴⁰ Contrastingly, Sinclair’s appearance surrounded by torches accentuates his fiery rage. His characteristic unnecessary aggression, hinting at tropical neurasthenia, is further highlighted through a listing of his actions. The fray ends with the death of both Hope (by Sinclair) and Sinclair (by his fellow officers attempting to guard Diana from Sinclair’s wrath). Thus, lack of emotional restraint in the tropics has resulted in symptoms of tropical illness, culminating in unrest amongst colonial officials and two untimely deaths.

Tringham identifies the protagonist, Governor of St Vincent John Chesham, as having malaria. He explains to Percival that he has seen Chesham twice recently: on the first occasion he was ‘well enough’, but on the second he was ‘very melancholy, ill of a

¹³⁸ Surgeon-General R. Havelock Charles, ‘Neurasthenia, and its bearing on the decay of Northern peoples in India’, *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 7 (1) (November 1913), 2-31 (p. 16).

¹³⁹ Ross, *The Spirit of Storm*, p. 31.

¹⁴⁰ *Ibid.*, p. 279.

bilious fever, [and] yellow as a Creole'.¹⁴¹ '[B]ilious fever', like 'jungle fever', appears synonymous with malaria, so from the outset of the novel it is clear that, as with *The Child of Ocean*, *The Spirit of Storm* will also dramatise a case of malaria. The idea that Chesham was 'well enough' and then, shortly after, surprisingly unwell, hints at the 'incubation period' for malaria: Ross explains in *Malarial Fever: its cause, prevention, and treatment* that the patient 'may remain apparently quite well' for up to twenty days after becoming infected.¹⁴² At the end of this period, the 'illness commences – generally with a [...] feeling of being "out of sorts"' resonating with Chesham's melancholia.¹⁴³ The narrator later explicitly says that, '[i]n spite of the *malarial hue* of his complexion, the tinge on [Chesham's] cheeks and the growth of fair hair on his face showed him capable of a speedy recovery of health'.¹⁴⁴ The 'malarial hue' then explicitly ties Chesham's illness with Ross's contemporaneous interest in malaria. Because Chesham does not wholly succumb either to his emotions or his malaria, Tringham is able to convince him neither to murder his son, Percival, nor to take his wife Diana to court, but to return to England 'where by degrees he recovered his health and temper'.¹⁴⁵ Ross's second novel then offers a more direct engagement with tropical medicine and its connection to the British Empire than his first novel: due to their advanced military and administrative ranks, Colonel Sinclair's mental illness and Governor Chesham's bout of malaria specifically dramatise the link between tropical illness and political instability in the West Indies.

The man with whom Chesham accuses his wife of having an affair, Captain Wilson, is also removed from the island due to a lesser ailment: calenture. A. D. Macleod identifies the development of the term calenture, noting that psychiatrist Jean-Pierre

¹⁴¹ Ibid., p. 35.

¹⁴² Ross, *Malaria: its cause, prevention, and treatment*, p. 3.

¹⁴³ Ibid., p. 3.

¹⁴⁴ Ross, *The Spirit of Storm*, p. 295. Emphasis mine.

¹⁴⁵ Ibid., p. 351.

Falret (1794-1870) ‘described the afflicted sailors as experiencing visual hallucinations and perceiving the sea as “the green fields of home”’.¹⁴⁶ Falret postulated that the sailors [...] had an irresistible wish to be reunited with land and home.’¹⁴⁷ Erasmus Darwin (1731-1802), physician, poet, and enlightenment thinker, imagined scorbutic nostalgia and calenture as the same ailment: ‘they are both ecstatic states of nervous excitement arising from a radical disruption of the victim’s sense of position in time and space’.¹⁴⁸ References to calenture are found in *Robinson Crusoe* (1719), a text with which Ross was already familiar, since he references it regularly in *The Child of Ocean*.¹⁴⁹ Crusoe claims he ‘was continually sick, being thrown into a violent Calenture by the excessive Heat of our climate.’¹⁵⁰ Darwin’s definition of calenture, demonstrated in *Robinson Crusoe*, does not necessitate being at sea to experience the illness, which makes this a more likely definition for Wilson’s complaint. Wilson is ‘taken on board’ at St Vincent near the close of the novel *because* he is ‘dying of his calenture’, implying that he acquired calenture while on land at St Vincent.¹⁵¹ It can be assumed then that the cure for this kind of calenture is to remove the patient from foreign lands back to their healthy homeland of Europe. Unfortunately, for Wilson the move does not come soon enough, as he dies on the voyage.¹⁵² Wilson’s untimely death from calenture then clearly indicates the importance of tropical medicine as a specialism.

The impact of life in the tropics on Diana Chesham is less prevalent in the novel. While pregnant, Diana returns to England to restore her health and give birth to Percival. Returning to a more temperate climate was common for colonist women living in the

¹⁴⁶ A. D. Macleod, ‘Calenture – Missing at sea?’, *British Journal of Medical Psychology*, 56 (4) (December 1983), 347-350 (p. 347).

¹⁴⁷ *Ibid.*, p. 347.

¹⁴⁸ Jonathan Lamb, ‘Scorbutic nostalgia’, *Journal for Maritime Research*, 15 (1), (16 May 2013), pp. 27-36 (p. 27).

¹⁴⁹ In *The Child of Ocean*, Leda regularly uses *Robinson Crusoe* as a touchstone to confirm her status as coloniser and John’s status as colonised other. For references to *Robinson Crusoe* in *The Child of Ocean* see Ross, *The Child of Ocean*, p. 94., p. 117., p. 124.

¹⁵⁰ Daniel Defoe, *Robinson Crusoe* (London: Penguin Classics, 2001), p. 16.

¹⁵¹ Ross, *The Spirit of Storm*, p. 305.

¹⁵² *Ibid.*, p. 339.

tropics because ‘for bodies whose health depended on moral and physical temperateness’, as women’s bodies did, ‘tropical heat was seen as a danger’.¹⁵³ When Diana and her husband meet at the climax of the novel, the narrator compares the complexion of the spouses: ‘Not paled by a long residence in the tropics, as her husband was, she presented a marked contrast to him, and shone opposite to him as the morning shines opposite to the decayed night’.¹⁵⁴ By having Diana and Percival almost the only colonist characters not to have some form of disease or degenerative issue, the novel highlights potential health risks specifically for those who permanently reside in the tropics. Women, who can leave for healthier climates because of their less pertinent role in expanding the British Empire, are less likely to suffer the full impact of the supposed unhealthy climate.

Tropical Illness and Imperial Instability

The backdrop to the narrative of malaria and madness in *The Spirit of Storm* is the chaos of the Haitian Revolution. Mégroz explains that the novel is set

where the terrible uprising of the black slaves occurred. There are some ghastly and gory scenes of fighting between whites and blacks, inspired by the slaves’ ideal of liberty [...] and the elements of positive good in the white civilisation. But these exciting incidents [...] are quite subsidiary, mere episodes that scarcely belong to the story.¹⁵⁵

However, archival material proves the importance of the West Indies, particularly the backdrop of the Haitian Revolution, to be integral to *The Spirit of Storm*. Ross’s series of British Library tickets show that he consulted a wealth of texts concerning the history of and contemporaneous life in Haiti and Santo Domingo. Ross’s interests specifically lay in the historical views of the British on the Haitian Revolution: he requested texts such as

¹⁵³ Bewell, *Romanticism*, p. 281.

¹⁵⁴ Ross, *The Spirit of Storm*, p. 338.

¹⁵⁵ Rudolphe Louis Mégroz, *Ronald Ross: Discoverer and Creator* (London: George Allen & Unwin Ltd, 1931), p. 230.

The English in the West Indies (1888), as well as reading a first person account of the Haitian Revolution by British Army Captain Marcus Rainsford (1758-1817) entitled *An Historical Account of the Black Empire of Hayti* (1805).¹⁵⁶ Using knowledge gleaned from these texts, Ross appears to use the Haitian Revolution to highlight how British colonisers, when inflicted with any kind of tropical illness, allow for imperial instability.

Lord Tringham, the current governor of Jamaica, is the hero of *The Spirit of Storm*. He enters the novel as Percival's travelling companion from Port Royal to St Vincent. In the *National Observer* review he is described as 'admirable [...] a splendid portrait of the fine gentleman soldier [...]: brave, courteous, scholarly'.¹⁵⁷ Thus, unlike Sinclair or Chesham, Tringham is understood to be morally upstanding. At the opening of the novel Tringham, almost narrator-like in his ability to stand apart from and provide commentary on the action of the novel, refers to degeneration in the tropics. For example, on meeting Percival 'his lordship patted [Percival's] head and declared he was [...] the finest [lad] he had seen in those degenerate days'.¹⁵⁸ Foreshadowing Chesham's tropical illness, Tringham explains that only 'if things are well' would he consider bestowing the governorship of Jamaica on Chesham.¹⁵⁹ Later, he hints at the incompatibility of white people with tropical climates: 'Ay, the blue skies indeed! But I love blue eyes better and they do not go together'.¹⁶⁰ Here, Tringham suggests that Europeans are ill-suited to life in the tropics, again foreshadowing later instances of tropical illness in the novel and marking him out as shrewder than other characters.

Family politics is used in the novel as a microcosm to discuss political instability and the need for calm, rational reasoning in all aspects of life. Ross makes clear a parallel between Chesham's ill judgement and the problem of imperial instability. Chesham, who

¹⁵⁶ Glasgow, Royal College of Physicians and Surgeons of Glasgow. The Ross Collection. 9/LIT 7/1/2. 'British Library Tickets for *The Spirit of Storm*'. Undated.

¹⁵⁷ Ross, *Memoirs*, p. 108.

¹⁵⁸ Ross, *The Spirit of Storm*, p. 10.

¹⁵⁹ *Ibid.*, p. 12.

¹⁶⁰ *Ibid.*, p. 12.

at one point while ‘very ill from fever’ decided to ‘sacrifice’ Percival, finally realises that to attempt the murder would be wrong.¹⁶¹ During the voyage from Port Royal to St Vincent, Chesham hid himself on the vessel so that he could murder Percival. During this time, heavily armed French planters commandeer the ship in order to flee the rebellion, followed by slaves attempting to kill their French masters. The lack of calm, rational reasoning, which resulted in the revolution, is highlighted by Tringham as the source of imperial instability. Before the battle breaks out on the ship between the planters and the slaves, Tringham shouts that ‘[t]his is the end [...]; the slaves have risen up. I told you what would happen upon the late traitorous murder of Colonel Mauduit. The French colony is ruined.’¹⁶² Here, Tringham is referencing the murder of Thomas-Antoine de Mauduit du Plessis (1753-1791), the ‘commander of the royal troops in Saint Domingue just as the Old Regime began to shake’.¹⁶³ When the battle breaks out between French planters and the slaves, Percival is injured. Chesham, after seeing the injured child, realises that he might have been wrong. He holds unconscious Percival in his arms, while the narrator notes that: ‘Men like nations are affected with different political styles. [...] It was now time for a national mourning; all [Chesham’s] thoughts, down to the meanest, were singing dirges; he hung over his child’.¹⁶⁴ This simile then links the chaos within the Chesham family, specifically the mistreatment of Diana and Percival by Chesham, with the poor governing of the West Indies. The didacticism becomes apparent at this stage of the novel, as the narrator explains that if Chesham had ‘listened for a minute to reason’, this fever-induced attempted murder need not have occurred. The narrator notes:

Why, if we reason at all, do we not reason utterly? Why use it in one place and throw it away in another? If we cannot act without reason and the just consideration of circumstances in trivial deeds, how can we act without it in matters which are more complex and require still more reason and consideration?’

¹⁶¹ Ross, *The Spirit of Storm*, p. 312.

¹⁶² *Ibid.*, p. 133.

¹⁶³ James Alexander Dun, *Dangerous Neighbours: Making the Haitian Revolution in Early America* (Philadelphia, University of Pennsylvania Press, 2016), p. 32.

¹⁶⁴ Ross, *The Spirit of Storm*, pp. 319-320.

[..] Let us wonder how far fortune and misfortune exist at all; the sky has fifty winds; it is our part of steer between them.¹⁶⁵

The novel's didacticism then becomes clear: reason must be applied in all cases, from family disputes to large-scale political discord, for colonial stability.

Tringham reinforces the importance of reasoning on a global scale through his interpretation of the Haitian Revolution. Using a metaphor of fire, Tringham links the Haitian Revolution to occurrences in France: 'From that great blaze which set Europe afire came the red sparks, falling among these peaceful islands of the west, which raised among them a conflagration no less terrible.'¹⁶⁶ His political commentary becomes detailed later in the novel, when he cries out:

Is everything coming to pieces? In France, the government nearly swept away by a single cataclysm; in England, the mob, roaring an opposite cry of 'No philosophers,' guts the houses of our most learned men; and even here, the half-beastly blacks have discovered rights which they think fit to advertise by murdering their masters! I told you what would come of these General Assemblies of Hispaniola, these Declarations of Rights, these Liberties to men of colour. Oge and Chavane [*sic*] made only a beginning; and the rumours we heard in Kingston have but run before one of the most terrible events which have ever happened.¹⁶⁷

Tringham references specific documents that led to the Haitian Revolution, such as The Declaration of the Rights of Man and Citizens approved by the National Assembly in France on 26 August 1789.¹⁶⁸ Ross also provides names of prominent abolitionists like Vincent Oge (1755-1791), who began a revolt in Saint Domingue in 1790 that, as Tringham states, was the beginning of the uprising culminating in the Haitian Revolution.¹⁶⁹ Tringham refers to Jean-Baptiste Chavannes, a comrade of Oge who was a Civil War soldier, subsequently returning to Haiti to encourage a revolutionary

¹⁶⁵ Ibid., p. 315.

¹⁶⁶ Ibid., p. 120.

¹⁶⁷ Ibid., p. 134.

¹⁶⁸ Kona Shon, 'The History of Haiti' (27 October 2015) URL: <https://library.brown.edu/haitihistory> [Accessed: 17 September 2018].

¹⁶⁹ Ibid.

movement.¹⁷⁰ The Haitian Revolution is paramount then, as it evidences how colonisers' various tropical illnesses can lead to political instability of colonial outposts, which in turn reduces imperial strength both in the colonies and at the metropole. This instability, in the case of *The Spirit of Storm*, is localised in various officers' diseases and degenerative changes: Sinclair succumbs to tropical neurasthenia, Hope is defined as an invalid, Chesham suffers malaria, and Wilson dies from calenture. Indeed, Rogers confirms that 'degenerative changes' like madness in the tropics 'were linked to the fear of a weakened, largely white ruling class being overthrown by the non-white masses', which is precisely what the didacticism in *The Spirit of Storm* highlights.¹⁷¹

A beacon of hope for the stability of the empire, Tringham maintains his 'cool European demeanour' throughout the novel, controls the narrative, and has the final say on the lives of the Chesham family. He convinces the family to reunite and return to England, where Chesham can recover from his rage and his bout of malaria.¹⁷² After Chesham recovers, he admits to Tringham: 'You are the bravest man in the world'.¹⁷³ Further, in the final line of the novel, the reader is reminded that Tringham 'held in his pocket the governorship of Jamaica', which he was going to bestow upon Chesham, but decided (wisely) to keep to himself in order to encourage Chesham's return to the metropole. This return to the metropole for Chesham presents an alternative narrative function of malaria to the literature Howell discusses. Unlike fellow romancers such as Haggard, who Howell argues displaces malarial symptoms onto racial and national others, Ross does not provide that kind of distancing mechanism: the didacticism of Ross's novel highlights the importance to British health of understanding tropical illnesses by making these illnesses a major risk to British life in colonial outposts.¹⁷⁴

¹⁷⁰ Ibid.

¹⁷¹ Charlotte Rogers, *Jungle Fever: Exploring Madness and Medicine in Twentieth-Century Tropical Narratives* (Nashville: Vanderbilt University Press, 2012), p. 35.

¹⁷² Ross, *The Spirit of Storm*, p. 351.

¹⁷³ Ibid., p. 350.

¹⁷⁴ Howell, *Malaria and Victorian Fictions of Empire*, p. 81.

These incidents of malaria, and, more broadly, incidences of various tropical ailments in the novel, do not act ‘as a rite of passage to the riches of empire’ in the case of Ross’s first two novels, but act as a barrier to it.¹⁷⁵ Howell writes that nineteenth-century British medical discourse defined malaria

as a disease “out there” rather than “right here”. [...] During the period of New Imperialism (1870-1914), marked by great expansion and consolidation of Britain’s holdings abroad, malaria was reified as a disease of “out there” rather than “right here”.¹⁷⁶

In both *The Spirit of Storm* and *The Child of Ocean*, the didactic operations appear to argue something slightly different: malaria may indeed be ‘a disease “out there”’, but it is still of consequence to the stability of the empire and, therefore, should be a concern for the readership at the metropole. Just a year after the publication of *The Spirit of Storm*, on 20 August 1897, Ross would celebrate the first Mosquito Day to commemorate his contribution to the erosion of malaria as a barrier to empire.

Publishing *The Revels of Orsera* (1920)

By 1919, when Ross submitted his third romance to publishers, his status had drastically changed. On completing his malaria research in 1899 he had retired from the IMS and had been living in England for nearly two decades. In those two decades, Ross had gained celebrity status as he had become the first Briton to win the Nobel Prize for medicine (1902) and had been knighted (1911). In terms of his career, he had risen to Chair of Tropical Sanitation at the Liverpool School of Tropical Medicine before becoming Consultant in Malariology for the British War Office in 1917 and then, in 1919, for the Ministry of Pensions and National Insurance. In terms of his literary output, he had risen

¹⁷⁵ Ibid., p. 352.

¹⁷⁶ Ibid., pp. 3-6.

to the ranks of President of the Poetry Society for his poetic output, examined in Chapter Three of this thesis, and had been editor of popular science magazine *Science Progress* for six years, examined in Chapter Four of this thesis. It is unsurprising then that, upon receiving the manuscript, publisher John Murray dispatched it for a reader's report.¹⁷⁷

Unfortunately, the report was not complimentary of Ross's final foray into fiction. However, the reader indicates that linking the novel to Ross's by then well-established status as a celebrity medico-scientific researcher and public intellectual, a status Ross had not held at the publication of his previous novels, may enable the book to sell:

It must be essential that if this book be published it appears with the author's name. When this MS was originally submitted, four years ago, Sir Ronald Ross insisted on anonymity. That condition must now be regarded as impossible for without his name it has no chance of success: with his name it may very well do well.¹⁷⁸

Archival material relaying Ross's reasons for anonymity are not now extant. His request to remain anonymous seems wholly uncharacteristic, as Ross was known to be 'prone to vanity'.¹⁷⁹ The only other text Ross required to be published anonymously was his satirical poem, 'The Setting Sun' (1912). According to Ross, his poem of war propaganda was published anonymously because he hypothesised that 'the public would attribute it to some politician at least, and so read it!'¹⁸⁰ When his identity was revealed, Ross assumed that subsequent lack of attention was because his authorship was uncovered, and so 'the world, learning that it was written only by a professor, took no further interest in it whatever'.¹⁸¹ Perhaps then Ross applied this same logic to his final novel: feeling underappreciated for his malaria discovery, Ross may have believed that his public persona would not draw attention or could in fact harm the chances of his novel being

¹⁷⁷ Edinburgh, National Library of Scotland. The John Murray Archive. Acc. 12927/265 (C55) Revels of Orsera: a medieval romance. 'Reader's Report'. Undated.

¹⁷⁸ Ibid. Underlining present in the original source.

¹⁷⁹ W. F. Bynum, 'Ross, Sir Ronald (1857–1932)', *Oxford Dictionary of National Biography*, Oxford University Press, 2004. URL: <http://www.oxforddnb.com/view/article/35839> [Accessed: 4 June 2018].

¹⁸⁰ Ross, *Memoirs*, p. 508.

¹⁸¹ Ibid., p. 509.

sold. However, Murray's reader is wholly convinced that attributing the novel to Ross would be the *only* way to ensure sales. Indeed, they end the report with a blunt reminder: 'because Sir R Ross is the author this work will attract attention: but it must be *sise qua nom* [*sic*] that the book bears his name.'¹⁸² It appears Murray was able to persuade Ross of this, as his name did appear on the title page.

Advertisements and reviews of the novel illustrate Ross's changed status from unknown Anglo-Indian medical practitioner, or even potential *nom de plume* for another author, to British celebrity and knighted scientific authority. The *Nation* advertisement reads: 'The Revels of Orsera. A Medieval Romance by Sir Ronald Ross K. C. B., F. R. S. Sir Ronald Ross, who has proved that distinction in the world of science is not incompatible with success in the sphere of thoughtful poet, here proves the possession also of the gift of imaginative romance'.¹⁸³ The novel is also listed under 'Books Received' in the science periodical *Nature*. In *The English Review*, Austin Harrison (1873-1928) confirms that 'Sir Ronald Ross is [...] distinguished in science and letters'.¹⁸⁴ The review in *The Spectator* alludes to Ross's friend and fellow physician-writer Dr Silas Weir Mitchell to comment on Ross's final novel: 'Mitchell [...] has spoke[n] of Sir Ronald Ross as one who has earned the double laurel of science and poetry'.¹⁸⁵ The review, unlike the report from Murray's reader, suggests that the novel 'would claim admiration on its merits quite apart from the antecedents of the author'.¹⁸⁶ Indeed, they explain that 'there is hardly anything in the book to indicate that it was written by a man of modern science. Rather does it suggest the scholar, the poet, and the mystic, [...] identifying himself with the spiritual perplexities of an unscientific age.'¹⁸⁷

¹⁸² Edinburgh, National Library of Scotland. The John Murray Archive. Acc. 12927/265 (C55) Revels of Orsera: a medieval romance. 'Reader's Report'. Undated. Underlining present in the original source.

¹⁸³ Anonymous, 'Mr Murray's New Books', *Nation*, 27 (12), (19 June 1920), p. 375.

¹⁸⁴ Anonymous, 'Books Received', *Nature*, 105 (2642), (June 1920), p. 507.

¹⁸⁵ Anonymous, 'The Revels of Orsera (Book Review)', *The Spectator*, 125 (4809), (28 August 1920), p. 280.

¹⁸⁶ *Ibid.*, p. 280.

¹⁸⁷ *Ibid.*, p. 280.

In *Memoirs*, Ross notes that there was some annoyance at what was mistakenly seen as his first attempt to succeed in the literary marketplace:

A fierce critic said of Sir Harry Johnston and myself that we ought to be ashamed of ourselves for trying to win literary fame after having acquired some of that article in other fields; it did not occur to the poor man that, with me at least, literature was the first love.¹⁸⁸

According to this anecdote then Ross first and foremost identified himself as a writer, even after having received accolades and appointments because of his medico-scientific prowess. However, this identification is at odds with the review, which indicates that his previous literary efforts have been eclipsed by his malaria work. Perhaps then, considering his significance as a scientific authority and medical expert, Ross's novelistic output no longer needed to do the work of implying that authority and expertise. In fact, as this review suggests, it may have been seen as impertinent to use medico-scientific fame to become a successful romancer.

Another reason Ross might have wished to publish anonymously was because it was a departure from his previous novels with their explicit dramatisation of scientific and medical issues and the impact of these issues on the security of the British Empire. The setting of *The Revels of Orsera* is not a tenuous colonial outpost, but medieval Switzerland in the year 1495. The poor Neroni family, consisting of mother Morva, beautiful chamois hunter daughter Astrella, and her deformed twin brother Zozimo, live on an isolated hilltop. Due to lack of money, Zozimo begins working as a tapster at a nearby inn. Despite being kind, respectful and hardworking, Zozimo is cruelly bullied by the locals for his dwarfism. Eventually Zozimo makes a pact with a stranger (known to the reader to be the devil) at the inn, to swap his body for one resembling Apollo, so that he may win over the sole individual who has shown him kindness: the Count's daughter, Lelita. This section argues that Ross's final novel reflects his contemporaneous self-

¹⁸⁸ Ross, *Memoirs*, p. 518.

perception as a neglected suffering medico-scientific researcher, also explored in Chapter One of this thesis: the novel functions as an allegory for the consequences of disregarding the truly virtuous researcher.

According to the reader's report the setting and plot of *The Revels of Orsera* are 'too old-fashioned and artificial, full of reflections of earlier greater works of the clichés of the Tushery School'.¹⁸⁹ The reader correctly identifies *The Revels of Orsera* as using techniques that can be identified as tushery. Robert Louis Stevenson coined the term tushery as 'a conventional style of romance characterized by excessive use of affected archaisms such as "tush!" [...] sentimental or romanticising writing'.¹⁹⁰ While Ross did not appear to make extensive use of archaisms in his previous novels, evidence of outdated verbiage is clear throughout his poetic corpus, explored in Chapter Three of this thesis. The earlier work that *The Revels of Orsera* most clearly reflects is Byron's unfinished disability narrative, *The Deformed Transformed* (1824). In one of his many letters to Murray regarding the novel's publication, Ross divulges that it 'is really a completion of Byron's "Deformed Transformed" which I was reading last night in the beautiful edition which you gave me'.¹⁹¹ Byron's inspiration for the drama stemmed from his dissatisfaction with Renaissance depictions of disability: his unfinished drama 'refashioned disability in Shakespeare' from 'Renaissance "ploy" and "stratagem" into a matter of [...] social and personal identity'.¹⁹² In *The Revels of Orsera*, Ross borrows

¹⁸⁹ Edinburgh, National Library of Scotland. The John Murray Archive. Acc. 12927/265 (C55) Revels of Orsera: a medieval romance. 'Reader's Report'. Undated.

¹⁹⁰ 'Tush', in *The Oxford English Dictionary* [online], URL: <http://www.oed.com/view/Entry/207811?redirectedFrom=tushery#eid17209348> [Accessed: 12 June 2018].

¹⁹¹ Edinburgh, National Library of Scotland. The John Murray Archive. Acc. 12927/265 (C55) Revels of Orsera: a medieval romance. 'Ronald Ross to John Murray'. October 1919.

¹⁹² Sharon L. Snyder, *Narrative Prosthesis: Disability and the Dependences of Discourse* (Ann Arbor: University of Michigan Press, 2008), p. 163.

Byron's disability narrative, using narrative prosthesis to pen an allegory regarding his medico-scientific branding as neglected suffering hero.¹⁹³

The Allegory of the Neglected Hero

The protagonist of *The Revels of Orsera* is dwarf and virtuous societal outcast, Zozimo. At the opening of the novel, Zozimo is infantilised and emasculated due to his physical appearance:

no taller than a boy of ten, [...] his face was quite hairless [...] his delicate features, were like those of a sickly girl [...] the slight curvature in the upper part of his spine thrust forward the chin in such a manner that the countenance seemed forced to look upward to heaven in a continual supplication.¹⁹⁴

Rather than being an indicator of moral frailty, the narrator explains that, despite his disability, Zozimo had 'a decided air of courage and even of manliness'.¹⁹⁵ When Zozimo writes and performs poetry and music dedicated to the Count's daughter, Lelita, the narrator notes that 'a look of manliness, of audacity even, came into those pure and beautiful eyes'.¹⁹⁶ This characterisation enables Ross to garner what Karen Bourrier describes as 'an ennobling sympathy' in the readership: righteous readers are encouraged to sympathise with the misfortunes of Zozimo.¹⁹⁷ While Zozimo's manful personality is noted by the narrator, it is not acknowledged or rewarded by other characters in the novel (aside from his sister, Astrella). As in *The Deformed Transformed*, which opens with Arnold being shunned by his mother, Zozimo's mother, Morva, rebukes him, claiming

¹⁹³ Sharon L. Snyder defines 'narrative prosthesis' as the way in which disability 'has been used throughout history as a crutch upon which literary narratives lean for their representation power, disruptive power, disruptive potentiality, and analytical insight.'

¹⁹⁴ Ronald Ross, *The Revels of Orsera: A Medieval Romance* (New York: E. P. Dutton and Company, 1920) p. 19.

¹⁹⁵ *Ibid.*, pp. 19-20.

¹⁹⁶ Ross, *The Revels of Orsera*, p. 29.

¹⁹⁷ Karen Bourrier, *The Measure of Manliness: Disability and Masculinity in the Mid-Victorian Novel* (Ann Arbor: University of Michigan Press, 2012) p. 99.

that ‘sometimes it is as much a sin to be as to do’.¹⁹⁸ Later, she admonishes him again, crying out: ‘Who pieced you up of all my feebleness, leaving my virtues out, to be my abasement and dishonour forever?’¹⁹⁹ Lelita’s father, the Count, shares Morva’s view: he claims that poor behaviour is an innate part of deformity: ‘their actions are as crooked as their backs’.²⁰⁰ These reactions to Zozimo’s character highlight the fact that people are incapable of perceiving moral virtue if it is not presented in a particular way, as they disregard and chastise Zozimo due to his deformity.

During his relationship with Lelita, Zozimo (now transformed by the devil into Apollo-lookalike Prince Otto) must defend the actions of the devil who has taken residence in his previous body. Zozimo urges Lelita to imagine the challenge of retaining a moral character while experiencing physical suffering and intense ridicule:

You forget his deformity.[...] Remember, child, the torment in which he lives – ill-health, weakness, the observation, ridicule, rudeness, and unopposable violence of others. The butt of all men in spite of his virtue, he finds virtue unprofitable.²⁰¹

Now in a healthy and stereotypically attractive body Zozimo is finally acknowledged and admired by those around him, showcasing society’s inability to perceive true moral virtue unless it is presented in a specific way. Zozimo contends that, rather than a deformed body necessitating a deformed soul, it is a lack of acknowledgment and fair treatment from society that creates moral malignancy. Thus, if those who are virtuous were acknowledged and rewarded for their good deeds, moral malignancy need not occur. Zozimo’s contention, that being virtuous is almost damaging, is echoed in Ross’s *Memoirs*, where he complains about his scientific work being ignored: ‘virtue [is] her own reward – and punishment!’²⁰² Zozimo’s disabled body, which the devil now inhabits,

¹⁹⁸ Ross, *The Revels of Orsera*, p. 45.

¹⁹⁹ *Ibid.*, p. 72.

²⁰⁰ *Ibid.*, p. 68.

²⁰¹ *Ibid.*, p. 296.

²⁰² *Ibid.*, p. 378.

takes the opposite view to Zozimo. When told he looks unwell, the disguised devil remarks on the fixedness of the body to the soul: ‘The body affects the mind, sir. Fate fits our souls to its case, and what the body is the spirit grows to.’²⁰³ The devil argues that, as he is in a deformed body, he must be inherently immoral. By giving these lines to the villain, Ross encourages his readership to acknowledge their ignorance and to consider their treatment of those doing good deeds for society.

Ross provides a stark counterpoint to Zozimo’s appearance and societal status by introducing Ganogo, the Count’s dwarf jester:

When looking at the [...] deformed strength of [Ganogo’s] limbs, [there was no] doubt that he would make a bold and strong soldier. [...] the face [...] was made up of such a mixture of ferocity, courage, honesty, wickedness, passion, [...] and was withal so extraordinarily hideous, that at first sight of him a person would feel a shock of horror. The hunch on his back was enormous and compelled his face to look always downward, just as Zozimo’s compelled his to look upward.²⁰⁴

As the curve of Zozimo’s back forces him to look upwards symbolising his righteous, moral nature, Ganogo’s hunch forces him to look downwards, hinting at his immorality. This problematises the text’s didacticism, as it suggests that the form of disability at least somewhat indicates the morality of the character. Ganogo’s physical description is evocative of characters Ross has previously cast as other. In particular, Ganogo is reminiscent of one of the pirates in *The Child of Ocean*, the funny man of the *Black Eagle*, and a slaver in *The Spirit of Storm* named Ruth Donderbass, both of whom are clearly identified as immoral.²⁰⁵ Throughout the novel, Ganogo constantly causes mischief and harms fellow characters, yet while Zozimo is ridiculed and teased, Ganogo is ‘followed’ by many.²⁰⁶ Through the character of Ganogo then the notion that society

²⁰³ Ibid., p. 312.

²⁰⁴ Ibid., p. 58.

²⁰⁵ In *The Child of Ocean* the jester onboard the *Black Eagle*, described as ‘next door to an idiot’, shoots the mother of the ‘child of ocean’ despite the protests of the other crew members. While in *The Spirit of Storm*, Ruth Donderbass is not depicted as disabled, she is described in the same disparaging manner because she is ‘mulatto’: she has the ‘leer of an ogress’, which foreshadows her immorality.

²⁰⁶ Ross, *The Revels of Orsera*, p. 58.

idolises morally unscrupulous characters is reinforced. Indeed, despite his malevolent manner, Gangogo's death is 'received with a degree of grief which would have amazed him'.²⁰⁷ Ross writes a paragraph emphasising the intense grief of the town over Gangogo's death: Trullo 'ate almost nothing' for a week, while 'weeping and praying by its side in the chapel'; the Prince of Astra, Reding, Theiling, Werdenberg, and Cajazzo 'joined him in mourning'; and 'women placed flowers' on Gangogo's grave.²⁰⁸ Somewhat counterintuitively then, in *The Revels of Orsera*, those who are virtuous are ignored and those who are immoral are glorified.

The didacticism of the text is summed up when Zozimo concedes: 'It is useless. For self-service, success; for self-sacrifice, ingratitude! That is the error of the world'.²⁰⁹ These final words from Zozimo are strikingly similar to Ross's depiction of Walter Reed's sacrifice for science in *Memoirs*: 'If the world refuses to pay for world-service [...], it is the world that suffers – for its own folly'.²¹⁰ Similar phraseology can also be found in the article 'Sweating the Scientist' in the popular science magazine for which Ross was editor, *Science Progress*:

Of the few Britons of to-day who have done world service, how many hold the leading public posts even in their own domain? We appear to judge men, not by the work which they have done, but by the work which we may imagine, from their appearance, that they may do if we give them an opportunity. [...] Many other disabilities are frequently complained of and resented by scientific work.²¹¹

This comment in *Science Progress* clearly resonates with *The Revels of Orsera*. Just as Ross felt overlooked by the British government, and by Britons more generally, despite his scientific 'world service', dwarf Zozimo has been overlooked despite his altruism and virtue. *Science Progress* identifies Britain's shallowness and ignorance as a 'disability'

²⁰⁷ Ibid., p. 375.

²⁰⁸ Ibid., p. 376.

²⁰⁹ Ibid., p. 316.

²¹⁰ Ross, *Memoirs*, p. 426.

²¹¹ Anonymous, 'Sweating the Scientist', *Science Progress*, 8 (32) (April 1914), 599-607 (pp. 606-7).

which scientists such as himself do not suffer gladly. Comparing these kinds of comments, which more directly suggest Ross's contemporaneous branding as neglected suffering hero, supports an allegorical reading of the novel.

Six years on from 'Sweating the Scientist', the conclusion of *The Revels of Orsera* answers the question of what happens when virtuous members of society are disregarded. When Morva, Zozimo's mother, discovers that the devil resides in Zozimo's deformed body she decides that she must release Zozimo from this curse by stabbing him, so that the devil is removed. However, when she stabs Zozimo's body, the souls instantly return to their original bodies; meaning that Zozimo is now fatally injured. The dying Zozimo is found by his sister, Astrella. She removes him from Morva and the devil up to a mountain peak. Astrella's physical features are described as a 'beauty [...] above earth and that of God's angels descended; [...] her stature above woman; her great eyes were as blue as heaven'.²¹² Indeed, those around her are 'amazed [...] she should be the very twin-sister of that miserable one'.²¹³ Astrella then is understood to be the epitome of beauty, intelligence, and righteousness, as she has been able to see Zozimo's good nature no matter what form he took. As he is dying, Zozimo begins cursing his misbehaviour crying out that he 'was too rash with fortune', so 'the end is my just punishment', but Astrella denies that he has committed any sin.²¹⁴ The devil then appears on the mountain top and tempts Astrella, but she does not yield. Disregarding her moral actions, she is still killed by the devil. The two virtuous twins lie dead on the mountain top, not merely unacknowledged but victimised by society despite their morality and self-sacrifice. Thus, the text's didacticism is made clear: in a shallow and superficial society, morality and sacrifice is not merely unprofitable, but it is also dangerous and could lead to ostracization and punishment.

²¹² Ross, *The Revels of Orsera*, p. 74.

²¹³ *Ibid.*, p. 74.

²¹⁴ *Ibid.*, p. 369.

Conclusion

An analysis of the didactic operations of all three novels has shown that *The Child of Ocean* and *The Spirit of Storm*, written before the establishment of his status as celebrated medico-scientific researcher, impart medical and scientific knowledge by dramatising the relevance of that knowledge to imperial stability and progress. While not explicitly indicating his medical or scientific knowledge on the cover page using nominal letters, there is clear internal evidence that these novels enable Ross to brand himself not only as a capable romancer, but also as a scientific authority and popular disseminator of medical knowledge. These novels highlight the risk to life in the colonies for those who are ignorant of or incapable of adhering to contemporaneous medical and scientific knowledge, implicitly alerting the reader to the necessity of tropical medicine as a specialism that Ross himself was pursuing. A stark contrast to his first two novels, *The Revels of Orsera*, while not highlighting the importance of scientific or medical knowledge to the progress of empire, provides a lesson for readers about the societal status of the medico-scientific researcher. The final novel, which Ross toiled over for twenty-five years and published when his status as celebrated medico-scientific researcher had been reaffirmed through various accolades, rewrites 'The Deformed Transformed' to create an allegory about abuse and neglect of the suffering hero. This novel, rather than evidencing the importance of medical and scientific education and the necessity of tropical medicine for the advancement of the empire, implicitly questions the rewards of heroic medico-scientific work by celebrating evil Ganogo's life and disregarding the lives and deaths of virtuous twins Zozimo and Astrella.

Before his death in December of 1932, Ross sought to republish his first two novels, perhaps a suggestion that he wished for these two works to be his legacy as romancer. Indeed, Haggard had begged Ross to republish *The Child of Ocean*: 'I do wish

you would get child of ocean republished [...]. I want to read it again!’²¹⁵ By this time Ross had successfully gained the admiration of and established friendships with celebrity romancers Doyle, Haggard, and H. G. Wells, enjoying holidays with the latter two men and their families.²¹⁶ He succeeded in republishing *The Child of Ocean* but died before *The Spirit of Storm* could also be republished.²¹⁷ The 1932 title page of *The Child of Ocean* boasts ‘Sir Ronald Ross K. C. B, K. C. M. G., F. R. S.’²¹⁸ Thirty-three years after its original publication, reviews of the novel strike a different tone. *The Observer* marks out how elements of Ross’s multifaceted public persona shine through in this now decades-old romance: a ‘fine book, the novel of a poet, a scientist, and a born teller of tales’.²¹⁹ *The Spectator* notes that the novel is ‘the most astonishing blend of imagination, scholarship, love of nature, melodrama, and sheer nonsense that [he] [had] ever come across’.²²⁰ The detailed review in *Country Life* declares *The Child of Ocean* a ‘grotesquely beautiful story by the great master of malaria’, a man who, at the time of publication, was merely ‘an obscure surgeon in the Indian Medical Service’.²²¹ Some aspects of didacticism in the novel appear successful, as the reviewer notes that Leda is ‘an incredible prude’, while John ‘proves himself superhumanly noble’.²²² They suggest that the novel ‘reveals [Ross] as an idealist in characterisation, as an observer of nature, and in imaginative power [...] the macabre beauty of the Indian Ocean are the fruits of a scientist’s intimacy with it’²²³ These reviews, when compared to reviews produced on the first publication of Ross’s *The Child of Ocean*, evidence how Ross’s change in status and public profile altered the reception of the novel. Ross is no longer cast as an obscure

²¹⁵ Glasgow, Royal College of Physicians and Surgeons of Glasgow. The Ross Collection. 9/LIT 6/4/25b. ‘H. Rider Haggard. Manuscript’. 7 June 1920.

²¹⁶ Lilius Rider Haggard, p. 27. London, London School of Hygiene and Tropical Medicine. The Ross Collection. Ross/146/26/196. ‘From Amy Catherine Wells, wife of H. G. Wells’. 14 May 1924.

²¹⁷ Gibson and Nye, *Ronald Ross*, p. 197.

²¹⁸ Ronald Ross, *The Child of Ocean* (London: George Allen & Unwin, 1932).

²¹⁹ Anonymous, ‘Fresh Vision and Old Views’, *The Observer* (31 July 1932), p. 4.

²²⁰ L. A. G. Strong, ‘Fiction’, *The Spectator* (11 June 1932), p. 842.

²²¹ Anonymous, ‘The Child of Ocean’, *Country Life*, 72 (1861) (17 September 1932), p. 319.

²²² *Ibid.*, p. 319.

²²³ *Ibid.*, p. 319.

amateur romancer, or a fictionalised *nom de plume* for another novelist in these reviews. Instead his early efforts in fiction are eclipsed, with reviewers instead praising his meteoric rise from ‘obscure surgeon’ to ‘master of malaria’. These reviews, identifying Ross as a medico-scientific authority figure who then attempted to become a romancer, resonate with one of Ross’s favourite anecdotes:

When Peter Paul Rubens was Ambassador in England, an English courtier found him seated at his easel. "So His Excellency the Ambassador plays at being a painter," exclaimed the courtier. "No," replied Rubens, "His Excellency the painter plays at being an Ambassador."²²⁴

Later in life then Ross’s self-fashioning as, first and foremost, a writer appears in conflict with his public persona as a medico-scientific researcher. As mentioned in relation to the publication of his final novel, *The Revels of Orsera*, when a critic accused Ross of attempting to use his medico-scientific celebrity to gain literary fame, Ross felt it necessary to explain that ‘with [him] at least, literature was the first love.’²²⁵ By exploring Ross’s largely autobiographical poetic output in the following chapter, works mostly published after his malaria discovery, this thesis now seeks to establish to what extent Ross’s established medico-scientific persona impacted and influenced his self-fashioning as a poet and the reception of his poetry.

²²⁴ Ross, *Memoirs*, p. 518.

²²⁵ Ross, *Memoirs*, p. 518.

CHAPTER THREE

FASHIONING THE PHYSICIAN-POET

Introduction

During his June 1920 lecture at the Royal Institution, entitled ‘Science and Poetry’, Ross, who had only recently stepped down from his three-year role as President of the Poetry Society, commented on the synergistic work of artists and scientists past and present, ranging from Michelangelo (1475-1564) to Francis Darwin (1848-1925). He dwelt at length on the life of Sir Humphrey Davy (1778-1829), recounting that ‘when [Davy] was at school he developed a taste for telling stories, poetry, angling, and experimental science; that he was apprenticed to a surgeon, and entered upon an encyclopaedic course of study’.¹ As well as sharing similar childhood experiences, Ross and Davy shared an admiration for those retrospectively identified by Corinna Wagner and Andy Brown as ‘consilient thinkers’: individuals with ‘an ability to innovate by recognising significant correspondences between things, where at first none was obvious.’² Davy admired Michelangelo and Sir Isaac Newton (1642-1727), both of whom Ross cites in his lecture.³ In addition to styling himself in relation to prominent figures of the past, Ross penned poetry that enabled his rise to the level of President of the British Poetry Society (1916-1919), gaining him the friendship and admiration of Poet Laureate John Masefield (1878-1967).⁴ Poetry also gave Ross access to a contemporaneous network of prominent

¹ London, London School of Hygiene and Tropical Medicine. The Ross Collection. Ross/131/14/20. ‘Science and Poetry’. 4 June 1920.

² Corinna Wagner and Andy Brown, *A Body of Work: An Anthology of Poetry and Medicine* (London: Bloomsbury, 2017), p. 4.

³ *Ibid.*, p. 4.

⁴ Glasgow, Royal College of Physicians and Surgeons of Glasgow. The Ross Collection. 9/LIT 20/2/5. ‘Sir Ronald Ross – Lines addressed to the Poetry Society by the President’. 1917; Glasgow, Royal College of

physician-poets. During his lifetime, Ross published eight poetry collections: *Edgar; or The New Pygmalion* and *The Judgement of Tithonus* (1883), *Fables* (1907), *Philosophies* (1910), *Psychologies* (1919), *Fables and Satires* (1928), *Poems* (1928), *Lyra Modulata* (1931) and *In Exile* (1931), as well as anonymously publishing ‘The Setting Sun’ (1912), publishing ‘The Fall of the Zeppelin’ (1916) in *Nation*, ‘Shakespeare, 1916’ in *A Book of Homage to Shakespeare* (1916), and ‘Another League of Nations’ in *The Morning Post* (1919).⁵ Through his corpus of poetry, Ross fashioned his poetic persona in relation to a network of physician-poets, such as Sir William Osler, Dr Silas Weir Mitchell, and Sir Arthur Conan Doyle, with whom he shared literary and medical ideas. The first section of this chapter examines Ross’s network of physician-poets to uncover his self-fashioning as an educated, middle-class physician-poet.

Briefly commenting on Ross’s poetry, Jessica Howell notes that Ross ‘commemorated his [malaria] discovery with a poem, which was part of a series he titled “In Exile”’.⁶ Howell argues that the poem ‘In Exile’ demonstrates a:

consolidation of the heroic narrative and creating of a coherent arc. [...] The poem echoes colonial adventure texts by creating a narrative of physical toil and progress toward discovery [...] from one man sitting alone with a microscope. The title, [...] also illustrates science’s role in both forming and protecting the boundaries of an expatriate community – a kind of nationalist enterprise.⁷

This is one of two brief examinations of Ross’s poetry in Howell’s *Malaria and Victorian Fictions of Empire* (the other being a reference to a quatrain Ross penned for the frontispiece of Henry Rider Haggard’s biography).⁸ Building upon Howell’s examination,

Physicians and Surgeons of Glasgow. The Ross Collection. 9/LIT 30/1/1. ‘John Masefield Manuscript’. October 1916.

⁵ *In Exile* was published privately for circulation amongst friends in 1906. Since this thesis explores Ross’s public self-fashioning, the 1906 publication has been disregarded as it was not published for public consumption. In 1910, *In Exile* was publicly published alongside other poems, creating the collection *Philosophies*, which is examined in this chapter. Finally, the short collection which had been privately published in 1906 was publicly published in 1931.

⁶ Jessica Howell, *Malaria and Victorian Fictions of Empire* (Cambridge: Cambridge University Press, 2019), p. 148.

⁷ *Ibid.*, p. 148.

⁸ *Ibid.*, p. 76.

this chapter delves into a sustained and engaged analysis of Ross's corpus of poetry. This chapter particularly focuses on a chronological exploration of Ross's clearly autobiographical poems, examining how Ross developed his use of this literary form as a tool for self-fashioning as a medico-scientific researcher and public authority across the course of his career. The chapter argues that, even with his first published poetry collection, when Ross was an obscure IMS surgeon-apothecary, his poetry positions him in relation to prominent physicians. Before and during his medico-scientific research, his poetry functions as a space to dispel religion as the bearer of truth and to identify scientists as a fitting replacement for clergy, casting Ross as a second-generation scientific naturalist. Later, poetry enables him to immediately document the emotional turmoil faced throughout his research, creating the distinct poetic voice of the coloniser physician. Finally, on returning to England after his retirement from the IMS, Ross harnesses his medico-scientific celebrity to highlight the importance of scientists' social and political role in the British Empire and to admonish the public for what he identifies as their lack of respect for or understanding of art and science.

A Network of Physician-Poets

In 1905, William Osler had just taken up his position as Regius Chair of Medicine at the University of Oxford. A year later, in a letter of thanks for the gift of Ross's collection *Fables* (1906), Osler suggests to Ross:

If you have a spare copy of *Fables* I know Dr Weir Mitchell 1542 Walnut Street, Philadelphia would be delighted to have it. He too builds a "lofty rhyme" occasionally. Indeed, were it not for domestic complications, nothing would please me better to go on one of those expeditions.⁹

⁹ Glasgow, Royal College of Physicians and Surgeons of Glasgow. The Ross Collection. 9/LIT 18/2/2. 'Letter of Thanks and Praise from William Osler'. 21 January 1907.

Osler's letter evidences a burgeoning network of physician-poets on whom Ross could rely. Despite Osler's denial of his status as physician-poet, Richard L. Golden has identified 'three documented attempts at poetry' from Osler.¹⁰ One poem was casually 'written on a post-card to his small nephew' and the other two were written under his infamous pseudonym "Egerton Yorrick Davis": an unpublished 'nonsense note of thanks to Henry M. Thomas', and a scathing indictment of Baltimore politics and a modification of apothecary-poet John Keats's (1795-1821) "On First Looking into Chapman's Homer", entitled "The Marsh Market".¹¹ Like Ross, Osler was a fan of refined literary works. Osler's love of 'poetry is manifest throughout his works, from the classical allusions in his *magnum opus*, *The Principles and Practice of Medicine*, to the myriad erudite references in his essays and addresses.'¹² Indeed, Golden notes that on reading his patient Walt Whitman's (1819-1892) *Leaves of Grass* (1855), Osler claimed that it was not 'for [his] pampered palate accustomed to Plato and Shakespeare and Shelley and Keats'.¹³ In 1884, twenty-one years before Osler wrote this letter to Ross, he had just begun work as Chair of Clinical Medicine at the University of Pennsylvania, Philadelphia. It was there that he met a fellow physician-poet, Mitchell, whom he references in his 1905 letter to Ross. Mitchell 'served as [Osler's] mentor and friend' during his time in Philadelphia. Evidently then, the pair maintained this medico-literary bond for decades.¹⁴

Mitchell was a prolific writer of novels, short stories, and poetry. At an early age, Mitchell was encouraged to pursue his dual passions by a family friend and fellow physician-poet, Oliver Wendell Holmes (1809-1894).¹⁵ Even with this encouragement Mitchell, like Osler, used a pseudonym for his early publications in the *Atlantic Monthly*

¹⁰ Richard L. Golden, *Oslerian verse: an annotated anthology* (Montreal: McGill University-Osler Library, 1992), p. vii.

¹¹ *Ibid.*, p. vii.

¹² *Ibid.*, p. vii.

¹³ *Ibid.*, p. vii.

¹⁴ Nancy Cervetti, *S. Weir Mitchell, 1829-1914: Philadelphia's Literary Physician* (Pennsylvania: Pennsylvania State University Press, 2012), p. 167.

¹⁵ *Ibid.*, p. 156.

and *Lippincott's Magazine* perhaps due to fear that he would not be respected by the medical community if his poetic inclinations were revealed.¹⁶ Mitchell later refashioned himself as a literary physician 'dividing his activities into scientific work, clinical labours, and "literary play in the summer."¹⁷ However, as Nancy Cervetti argues, by defining his writing as play, Mitchell 'continued to assure his colleagues that medicine was his real work'.¹⁸ By 1896, when Mitchell's *Collected Poems* was published, he had already produced four poetry collections and six novels. As with Ross and Osler, Mitchell preferred to align himself with literature of the past by 'intentionally [using] antiquated diction and syntax to age his language.'¹⁹ In their correspondence with Ross, both men appear eager to include him in their bond as physician-poets. In a letter from Osler dated 4 August 1909, he writes: 'Mitchell was talking about your poems the other day, [...] one in particular he was very fond of and quoted some lines. Did he send you his poem "The Comfort of the Hills"? It is one of his best'.²⁰ The next year, on the publication of Ross's *Philosophies* (1910), Mitchell writes: 'Be sure to send one of this new edition to Sir Lauder Brunton, if you have not done so, and one to Osler'.²¹ In spite of, or perhaps because of reticence concerning the perception of physician-poets, this correspondence between the men flourished. Although, as this chapter will later argue, Ross viewed his poetic endeavours quite differently to these physician-poet friends.

Ross also corresponded with Arthur Conan Doyle on poetry. While Doyle is primarily known as a prose writer, he also penned the collections *Songs of Action* (1898), *Songs of the Road* (1911), *The Guard Came Through and Other Poems* (1919), and *The Poems of Arthur Conan Doyle* (1922), as well as many individual poems printed in newspapers and periodicals. Ross began his friendship with Doyle in 1914, using the same

¹⁶ *Ibid.*, p. 157.

¹⁷ *Ibid.*, p. 164.

¹⁸ *Ibid.*, p. 164.

¹⁹ *Ibid.*, p. 174.

²⁰ Glasgow, Royal College of Physicians and Surgeons of Glasgow. The Ross Collection. 9/LIT 23/1/5. 'Letter of Thanks and Praise from Silas Weir Mitchell'. 14 August 1909.

²¹ *Ibid.*, p. 1.

method he had with Haggard, sending complimentary copies of books.²² Ross interacted with figures such as Haggard and Doyle seemingly to help establish and legitimise his place amongst them as a writer of romance, as established in the previous chapter, and also (in the case of Doyle) as an accomplished physician-poet. Doyle writes in response to Ross's gift: 'It is indeed good of you to send me these books which I shall value all the more after having made your personal acquaintance'.²³ As mentioned earlier, Doyle already admired Ross with Doyle writing that Ross 'has always been one of my heroes of real life' because of his malaria work.²⁴ This medico-literary bond lasted decades. Indeed, later, when Doyle was beguiled by spiritualism, he wrote to Ross his New Year wish: 'I wish, dear Ross, you would use 1919 in turning your powerful mind towards psychic matters'.²⁵ Ross replied with light-hearted disregard for Doyle's provocation:

Now do you imagine that an old fellow of sixty-two can do this when he has to finish writing his memoirs [...], not to mention masses of War Office malaria work and some great masterpieces in poetry? Later on I am going to send you a Fable in verse on [spiritualism] which I have half composed.²⁶

This letter evidences the bond between Doyle and Ross, a bond where new ideas, such as spiritualism, were contemplated together through poetry. Doyle describes Ross's poem, 'Another League of Nations', as 'very thoughtful and witty. I am proud if it is really I who have solicited so fine a thing'.²⁷ Ross would go on to publish this poem both in *The*

²² Archival evidence shows that William Henry Cowan, MP for East Aberdeenshire, was meant to introduce Ross to Doyle in March 1914. Unfortunately, Doyle was unable to attend due to illness. Ross then reached out to Doyle by sending him a letter and a few books. On 20 April 1914, Doyle replied thanking Ross for his kindness, beginning their friendship.

²³ London, London School of Hygiene and Tropical Medicine. The Ross Collection. Ross/146/16/77. 'Letter from Sir Arthur Conan Doyle'. 20 April 1914.

²⁴ London, London School of Hygiene and Tropical Medicine. The Ross Collection. Ross/146/16/69. 'Arthur Conan Doyle to Lady Cowan'. 14 January 1914.

²⁵ London, London School of Hygiene and Tropical Medicine. The Ross Collection. Ross/146/21/44. 'Letter from Sir Arthur Conan Doyle'. 4 January 1919.

²⁶ London, London School of Hygiene and Tropical Medicine. The Ross Collection. Ross/146/21/45. 'Copy of a Letter from Ross to Sir Arthur Conan Doyle'. 13 January 1919.

²⁷ Glasgow, Royal College of Physicians and Surgeons of Glasgow. The Ross Collection. 9/LIT/13/1/16. 'Sir Arthur Conan Doyle'. 9 February 1919.

Morning Post and in *Fables and Satires*. The following year, Doyle sent Ross a letter of praise for his new collection *Psychologies*:

You are a great writer and would have been at the head of British literature as well as of science. “The Marsh” would have delighted Shakespeare [...] I sent you my wee poems, did I not? If not send me a card and I’ll do it.²⁸

Doyle aligns Ross with one of Ross’s beloved ‘consilient thinkers’, Shakespeare, before self-deprecatingly offering up his own ‘wee poems’ for Ross’s attention, verifying a consistent exchange of literary works between the two physician-poets. While Ross cultivated his network of physician-poets later in his career, it is easy to contextualise even his earliest works in relation to the works of physician-poet.

Myths and Legends

Ross’s first attempt to fashion his public persona as a physician-poet was when *Edgar; or The New Pygmalion and The Judgement of Tithonus*, two dramas in verse, ‘were printed at [Ross’s] cost by Messrs. Higginbotham & Co., [...] in 1883.’²⁹ Ross was taking part in vanity publishing or, as it was known to him, publishing on commission. Simon Eliot identifies publishing on commission as ‘the author [paying] the publisher as an agent to organize production and publication; he or she also paid all the printing, binding, and other costs’.³⁰ Samantha Matthews’s remarks on publishing on commission to highlight a key issue for Ross’s first poetical work: ‘The new author who writes for a poetic taste “gone by”, [...] is confronted by tough economic realities: he must either possess sufficient independent wealth to pay for publication, or make a living from another profession and

²⁸ Glasgow, Royal College of Physicians and Surgeons of Glasgow. The Ross Collection. 9/LIT 35/5/12. ‘Sir Arthur Conan Doyle’. 17 January 1920.

²⁹ Ronald Ross, *Memoirs: with a full account of the great malaria problem and its solution* (London: John Murray, 1923), p. 46.

³⁰ Simon Eliot, *The Cambridge Companion to the Victorian Novel: The business of Victorian publishing* (Cambridge: Cambridge University Press, 2001), p. 55.

reserve poetry for leisure time.³¹ This section will evidence how Ross uses ancient myths and outmoded tropes, beginning with his first collection, to position himself in relation to certain illustrious forebears and contemporaneous physician-poets.

For *Edgar; or the New Pygmalion* Ross chose to focus on rewriting a play he had seen in London, Sir William Schwenck Gilbert's (1836-1911) *Pygmalion and Galatea* (1871), which was a reimagining of a Greek myth. For 'The Judgement of Tithonus', he utilised the life of Tithonus, a character also borrowed from Greek mythology. Laura Eastlake identifies the proliferation of Greek myth in Romantic poetry, particularly in the works of Wordsworth, Coleridge, Keats, and Shelley.³² By publishing on commission a text of these two dramas, Ross contextualises his poetry amongst the works of those Romantic poets he admired. Moreover, by borrowing inspiration from Greek mythology, Ross indicates his hoped-for position in contemporaneous society. According to Linda K. Hughes, knowledge of the literature and myths of the ancient world 'was an entrenched part of grammar school and university education for Victorian males'.³³ However, Ross had a mixed education: sent to England at eight years old, he began at a lowly dame school, before being moved to Springhill School, a private boarding school.³⁴ He had hoped to attend Oxford or Cambridge, but after his father consulted the warden at St Bartholomew's Hospital Medical College, Ross was told it was not necessary to be a university graduate to enrol.³⁵ Throughout his poetry, Ross alludes to Greek and Roman myth with poems like 'Calypso to Ulysses' (1907), 'The Man, the Lion, and the Fly' (1907), 'Orpheus and the Busy Ones' (1910), 'Alastor' (1910), 'Paeon' (1910), 'Hesperus' (1928), and 'To Aphrodite in Cyprus' (1928). Discussing his lecture 'Malaria in

³¹ Matthew Bevis, *The Oxford Handbook of Victorian Poetry* (Oxford: Oxford University Press, 2013), p. 656.

³² Laura Eastlake, *Masculinity and Ancient Rome in the Victorian Cultural Imagination* (Oxford: Oxford University Press, 2019), pp. 77-8.

³³ Linda K. Hughes, *The Cambridge Introduction to Victorian Poetry* (Cambridge: Cambridge University Press, 2010), p. 40.

³⁴ Ross, *Memoirs*, p. 21.

³⁵ *Ibid.*, p. 29.

Greece' given at the Oxford Medical Society on 29 November 1906, Christopher Baron and Christopher Hamlin claim Ross's consistent referral to ancient Greek culture was to impress Osler, who was chairing the lecture, by showing 'himself, though a graduate of no university, as a person of liberal education and no mere colonial doctor'.³⁶ This notion can then be applied more broadly, as Ross also consistently used his poetic output to allude to his classical knowledge, evidencing his self-fashioning as an educated physician-poet.

Ross also utilised his knowledge of the ancient world as a method of testing scientific theories in his poetry, evident in his first collection published in England, *Fables*. After his address in front of Osler, Ross became patron and mentor of a young Cambridge classicist, Henry Samuel "Malaria" Jones (1876-1963).³⁷ For two years, they worked on Ross's hypotheses that 'malaria arrived relatively late in Greece (mid-to-late fifth century BCE)' and that it was eventually responsible for the 'event known as the decline of Greece, which began around 430 BCE'.³⁸ Ross then used what Sari Altschuler terms 'imaginative experimentation', using 'the imaginations to craft, test, and implement [his] theories of health', in his examination of Greece's downfall in the *Fables* poem 'The Man, the Lion, and the Fly'.³⁹ Hercules, son of Zeus in Greek mythology, and a lion begin to fight but, while taking a break, a fly pesters Hercules: 'First in the one ear then in t' other / The winged monster buzz'd with bother'.⁴⁰ At the conclusion, Hercules is exhausted trying to capture the fly, while the fly 'still nimble, [...] remote, / Laughed at [Hercule's] anger and enjoy'd / Fresh perspiration'.⁴¹ Hercules is defeated and 'the Lion still remains'.⁴² This poem functions as an allegory for degeneration of one empire due to malaria (ancient Greece) and the subsequent rise of another (Britain). Hercules symbolises Greece, since he

³⁶ Christopher Baron and Christopher Hamlin, 'Malaria and the Decline of Ancient Greece: Revisiting the Jones Hypothesis in an Era of Interdisciplinarity', *Minerva*, 53 (4) (December 2015), 327-358 (p. 332).

³⁷ *Ibid.*, p. 328.

³⁸ *Ibid.*, p. 328.

³⁹ Sari Altschuler, *The Medical Imagination*, p. 8.

⁴⁰ Ronald Ross, 'The Man, the Lion, and the Fly' in *Fables* (Liverpool: Liverpool University Press, 1907), l. 36-37.

⁴¹ *Ibid.*, ll. 49-51.

⁴² *Ibid.*, l. 59.

was ‘the most popular figure from ancient Greek mythology’.⁴³ The lion, the national animal of England, symbolises the rise of the British Empire. The fly is a clear reference to a mosquito and Greece, too tired from attempting to overcome malaria, is defeated by England: the exact hypothesis Ross discussed at the Oxford Medical Society in 1906. This poem exhibits Ross’s mixing of his literary and medico-scientific interests. In fact, *Fables*, the collection of which this poem was a part, was published in an effort to raise money for Ross’s Grecian Anti-Malaria League, evidencing his use of poetry to bolster his medico-scientific endeavours and therefore highlight his self-fashioning as both a medico-scientific researcher and poet.⁴⁴

As mentioned above, both Mitchell and Osler opted to publish poetry anonymously, cautiously positioning literary play as secondary to more serious medico-scientific work. This was never a concern for Ross perhaps because, as evidenced in Chapter Two, he saw himself as a writer first and a medico-scientific researcher second.⁴⁵ On the publication of *Fables*, Ross sent a copy to *The Lancet* for review. A member of *The Lancet*’s editorial team replied: ‘Do you wish to have your Fables reviewed in “The Lancet”? Some men of science do not mind the medical public knowing that they occasionally relax: others take a different view’.⁴⁶ While there is no surviving response from Ross, it can be assumed that he replied, since a positive review of *Fables* did appear in *The Lancet* soon after.⁴⁷ In the preface of his subsequent collection, *Philosophies*, Ross explicitly addresses this notion that literary pursuits should remain hidden: ‘For this I make no excuse to my conscience, since to my mind art and science are the same, and efforts in

⁴³ Jim Ollhoff, *The World of Mythology: Greek Mythology* (Minnesota: ABDO, 2011), p. 22.

⁴⁴ Mary Gibson and Edwin Nye, *Ronald Ross: Malariologist and Polymath* (London: Macmillan Press Ltd, 1997), p. 203.

⁴⁵ In *Memoirs*, Ross recounts that a ‘fierce critic’ said that Ross should be ‘ashamed [...] for trying to win literary fame after having acquired some of that article in other fields; it did not occur to the poor man that [...] literature was [his] first love’.

⁴⁶ Glasgow, Royal College of Physicians and Surgeons of Glasgow. The Ross Collection. 9/LIT 18/2/11. ‘Letter of Thanks and Praise’. No Date.

⁴⁷ Anonymous, ‘Reviews and Notices of Books’, *The Lancet* 169 (4355) (16 February 1907), 435-439 (p. 438).

both, however poor the result may be, are to be commended more than idleness'.⁴⁸ Ross then rejects a public persona such as Mitchell's, which implied that the physician writing poetry was simply the physician at play. Neither would Ross use a pseudonym, as Osler had. Instead, he consistently mixes literary and medico-scientific works. Ross's poetry collections were sent for review in medical journals; the profits for *Fables* were to be donated to the Grecian Anti-Malaria League, and in the preface of *Philosophies* Ross explicitly remarks that the poems are 'notes of the wayside' to his malarial discovery.⁴⁹

Establishing Medico-Scientific Truth

While Ross frequently used his poetry to engage with his illustrious network of physician-poets, and to explore medico-scientific theories, he also used this form of literary output to advocate for devotion to science, positioning himself as the quintessential scientific disciple. At the 1874 Rectorial Address at the University of Aberdeen, Thomas Henry Huxley (1825-1895) described the ideal student of science:

And the very air he breathes should be charged with that enthusiasm for truth, that fanaticism of veracity, which is a great possession than much learning; [...] for veracity is the heart of morality.⁵⁰

Bernard Lightman explains that, from the mid-nineteenth century, science was 'touted by its defenders as providing the best method for determining truth'.⁵¹ Clergy had lost authority, meaning 'those who could claim to speak on behalf of science gained immense cultural authority and intellectual prestige'.⁵² These men who spoke on behalf of science were identified as scientific naturalists, 'genuine arbiter[s] of truth to the British public',

⁴⁸ Ross, *Philosophies*, p. i.

⁴⁹ *Ibid.*, p. i.

⁵⁰ Thomas Henry Huxley, *Science & Education: Essays* (London, Macmillan and Co., 1895), p. 205.

⁵¹ Bernard Lightman, *Victorian Popularizers of Science: Designing Nature for New Audiences* (Chicago: University of Chicago Press, 2009), p. 5.

⁵² *Ibid.*, p. 5.

and Ross saw these men as his mentors.⁵³ Indeed, four years before the publication of *Philosophies*, in an article entitled ‘Science and the Public’ in *The University Review*, Ross declares that he is keen to take up Huxley’s mantle as defender of science:

I have been tempted by enthusiasm into taking up, unbidden and unworthy, a kind of brief for science. The truth is that for many years past all sorts of cranks, visionaries, politicians, poets and philosophers have been attacking [science]. [...] I pray for another Huxley to whirl a book at them. We should have flattened philosopher for dinner. But seriously I do wish that some one, in revenge for the world’s treatment of [science], would but turn the cold light of science into the numerous crannies, holes, cellars and back alleys of the world – nay into the schools, law-courts, fanes [temple or shrine], palaces and parliaments.⁵⁴

Ross claims that he has been ‘tempted’ to take up a ‘brief’, defined as ‘[a] letter of the pope to an individual or a religious community upon matters of discipline’, for science.⁵⁵ In other words, he has contemplated branding himself as a leader of scientists and defender of science, as Huxley had been for the previous generation of scientific naturalists. Four years later, in the preface to *Philosophies*, Ross implicitly brands himself as the ideal scientific naturalist:

We must be content to creep upwards step by step; planting each foot on the firmest finding of the moment; using the compass and such other instruments as we have; observing without either despair or contempt the clouds and precipices above or beneath us.⁵⁶

Ross’s invocation to his readers echoes Huxley’s conceptualisation of the ideal scientist. Ross has already outlined his own journey towards truth in the preface by referencing his harrowing work in relation to malarial transmission, yet he still implicates himself in the quest for truth by repeating the pronoun ‘we’. He invokes ‘enthusiasm for truth’ in his poetry, hoping that it awakens the same enthusiasm in his readership. In his collections,

⁵³ Anne DeWitt, *Moral Authority, Men of Science, and the Victorian Novel* (Cambridge: Cambridge University Press, 2013) p. 34. Bernard Lightman, p. 5.

⁵⁴ Ronald Ross, ‘Science and the Public’, *The University Review*, 1 (April-September 1906), 22-38 (p. 34).

⁵⁵ ‘Brief, n.’ in *The Oxford English Dictionary* [online], URL:

<https://www.oed.com/view/Entry/23262?rskey=IHWcoM&result=1&isAdvanced=false> [Accessed: 4 December 2019].

⁵⁶ Ross, *Philosophies*, p. i.

Ross uses his status as medico-scientific researcher and keen arbiter of truth to condemn corrupt authoritarians, to glorify scientists, and to encourage his readership to realise their duty to seek scientific truth. Throughout his poetry, Ross demonstrates his willingness to bestow moral guidance and encourage the pursuit of truth.

As with his novels, Ross appears to have written *Fables* with a didactic intention in mind. A fable is defined as a ‘story devised to convey some useful lesson; [especially] one in which animals or inanimate things are the speakers or actors; an apologue’.⁵⁷ Ross wrote *Fables* for his children between 1880 and 1890.⁵⁸ Upon publication, he sent a copy to Osler, to which Osler replied that Revere, his son, had ‘enjoyed the ones that he had read’.⁵⁹ In Ross’s discussion of truth in *Fables*, he focuses on the destruction of accepted authority figures, such as the clergy. In particular, his poems ‘An Expostulation of Truth’, ‘The truth of Truth’, and ‘Puck and the Crocodile’ evidence a wish to instil in his young readership an understanding of scientific naturalists as the genuine arbiters of truth.

In ‘An Expostulation of Truth’, Ross encourages his implicitly young readers to pursue truth and challenge previously accepted authorities. The subtitle ‘Uttered by the Well Meaning Poet’, introduces the satirical tone present throughout the poem (and many of Ross’s poems). Ross characterises Truth as a pseudo-mythological figure: a goddess gazing down upon the world from a star, as the poetic voice entreats her to see the realities of life on earth, specifically that humankind is not capable of truth: ‘Pray, try to see us as we are’.⁶⁰ The poetic voice finds it absurd that Truth expects humankind to ‘Expound with logic most exact / And rightly marshal every fact’.⁶¹ ‘[L]ogic’ indicates a scientific enquiry towards truth. Ross’s use of military language (‘marshal’: ‘[t]o arrange or draw up (armed forces) for fighting, exercise, or review; to arrange or organize in a body or procession’)

⁵⁷ ‘Fable, n.’ in *The Oxford English Dictionary* [online], URL: <https://www.oed.com/view/Entry/67384?rskey=UeETbW&result=1&isAdvanced=false> [Accessed: 4 December 2019].

⁵⁸ Ross, *Fables*, p. v.

⁵⁹ Gibson and Nye, *Ronald Ross*, p. 203.

⁶⁰ Ronald Ross, ‘An Expostulation with Truth’ in *Fables* (Liverpool: Liverpool University Press, 1907), 1. 3.

⁶¹ *Ibid.*, ll. 7-8.

suggests that an individual must be soldier-like to capture truth.⁶² Thus Ross characterises the poetic voice as an authority on truth, as well as a keen observer of society. This poetic voice then highlights Ross's positioning as a kind of public intellectual.⁶³ As a second-generation scientific naturalist, he assumes his role as an arbiter of truth to the public able to proclaim traditional authority figures unfit.

Ross goes on to more explicitly mock particular professions in which the search for truth is a supposed necessity, identifying 'lawyers, doctors, parsons' as authorities for whom truth is too time-consuming.⁶⁴ Criticising these professions, particularly clergy, is predictable considering contemporaneous debate. Anne DeWitt explains that the second half of the nineteenth century saw

a contest for cultural authority in which men of science tried to usurp the power of the Anglican Church; as an endeavour to transform science into a profession, as an essentially religious movement; as an attempt to create an identity for the man of science.⁶⁵

By penning this poem then, as in the previous poem, Ross assumes scientists' role as the ultimate 'cultural authority'. Further, he directly engages with the contemporaneous contest by undermining the Anglican Church, developing his identity as a genuine arbiter of truth. Later in the poem, Truth is identified as a disease 'afflict[ing]' humankind: according to the poem then, Truth is viewed by the public as an affliction rather than a blessing, evidencing societal misunderstanding of and contempt for personified Truth.⁶⁶ The final stanza ends with two commands for Truth, bringing a tone of self-assuredness

⁶² 'Marshal, n.' in *The Oxford English Dictionary* [online], URL: <https://www.oed.com/view/Entry/114360?rskey=InxGKj&result=1&isAdvanced=false> [Accessed: 10 May 2020].

⁶³ Here, I am using Stefan Collini's definition of public intellectual 'in the cultural sense', defined in his text *Absent Minds* (2006). These are intellectuals who adhere to four 'dimensions': 'the attainment of a level of achievement' in an esteemed activity; 'the availability of [...] channels of expression which reach publics other than' those reached during the esteemed activity; 'the expression of views [...] which successfully [...] engage with some of the general concerns of those publics', and, lastly, 'the establishment of a reputation for being likely to have important and interesting things of this type to say and having the willingness [...] to say them.'

⁶⁴ Ross, 'An Expostulation with Truth', l. 12.

⁶⁵ DeWitt, p. 22.

⁶⁶ Ross, 'An Expostulation with Truth', l. 17.

and pride to the poetic voice: 'I rede you therefore, go away; / [...] Let's hear your views another day'.⁶⁷ The use of the archaic word 'rede' is just one instance of Ross aging his verses using anachronisms, contextualising his poetry within his physician-poet network, who lean on anachronism to gain an air of authority. Overall then, with 'An Expostulation on Truth' Ross entreats his young readers to identify the importance of truth, despite supposed societal ignorance and disregard. Ross claims that in established members of society, such as 'lawyers, doctors, [and] parsons', truth appears unimportant, but through the subtle use of terms such as 'logic' and 'marshal', he implies that scientific reasoning and military discipline will aid his child-reader's pursuit of truth.

In 'The truth of Truth' Ross focuses wholly on discrediting clergy. In the poem, a priest keeps Truth concealed behind a curtain until a 'foolish hardy Youth' brings down the curtain to discover that what was hidden was only 'A Pasty and a Pot of Beer / Which the poor Priest had got for dinner'.⁶⁸ Ultimately, the poetic voice is demonising the priest for allowing his congregation to believe that he was keeping the personified Truth captive. Juxtaposed with the priest is the Youth, whose confidence, determination and potential sacrifice are celebrated, because a false truth has been revealed to the world. This characterisation of children clearly echoes Huxley's view that you must come to a fact 'as a little child' and 'follow humbly wherever and to whatever abysses nature leads'.⁶⁹ As with 'An Expostulation of Truth', 'The truth of Truth' reinforces the rallying cry of contemporaneous scientists, and encourages readers to view humble truth-seekers, rather than the clergy, as the new arbiter of cultural and moral standards, who can accurately describe the hidden realities of the world: to '[banish] religious considerations from the search for knowledge'.⁷⁰

⁶⁷ Ibid., ll. 22-24.

⁶⁸ Ronald Ross, 'The truth of Truth' in *Fables* (Liverpool: Liverpool University Press, 1907) l. 15, l. 21-22.

⁶⁹ John Vernon Jensen, *Thomas Henry Huxley: Communicating for Science* (Newark: University of Delaware Press, 1991), p. 133.

⁷⁰ Lightman, *Victorian Popularizers of Science*, p. 28.

Ross hints again at the hypocrisy of the clergy in his fable ‘Puck and the Crocodile’, which he explicitly dedicates to the Godly. The narrative of the poem follows a young fairy who stumbles upon a crying crocodile. The reader is immediately wary of the crocodile, suspecting him to be the villain. The crocodile explains that his misery is because the world ‘Is full of Cruelty and Guile. / [...] Honour and Chivalry are dead; / [...] How are the Righteous much abhor’d, / And silent still the Godly Word!’⁷¹ These words of woe about a degenerating world due to misplaced idolatry encourage the fairy to come closer so that it can comfort the crocodile. However, the crocodile’s tone changes on the fairy’s approach, as the reptile intersperses anguished lines about the world’s condition with asides on the ‘fat’ and ‘fine condition’ of the fairy.⁷² The crocodile tries to lure the fairy in to check a sore tooth, but the fairy is not fooled and finishes the poem with warning couplets: ‘With many large soul’d folk I’ve met / I’ve found the stomach’s larger yet; / And when the Righteous talk of Sin / Look to your pockets or your skin.’⁷³ This poem works to highlight the hypocrisy and untrustworthiness of those who speak of righteousness, but only lure others in for selfish ends. The poem is further evidence of Ross’s clear criticism of religious cant and hierarchy. Puck, the fairy, encourages those listening to this sermonising to ‘look to [their] pockets’, in other words to check they are not being stolen from, and their ‘skin’ to ensure that they are not in mortal danger.

Building on the defamation of the clergy in *Fables*, published in 1907, Ross utilises *Philosophies*, published three years later in 1910, to more explicitly offer up a new moral and intellectual authority: scientists. In the intervening three years, while working as Professor of Tropical Medicine at the University of Liverpool, Ross had added to his accolades of Nobel Prize in medicine and Cameron Prize for autobiography, multiple honorary university degrees and, in 1909, a Royal Gold Medal from the Royal Society. A

⁷¹ Ronald Ross, ‘Puck and the Crocodile’ in *Fables* (Liverpool: Liverpool University Press, 1907), l. 13-19.

⁷² *Ibid.*, l. 24, l. 28.

⁷³ *Ibid.*, ll. 39-42.

year after publication he would also be knighted by King Edward VII.⁷⁴ The theme of truth continues in *Philosophies*, but in this instance, Ross emphasises truth as the aim of the heroic scientist's research. For 'Science', Ross writes in sonnet form, a form with clear religious connotations. Ross knights scientists, who stand in 'iron arms' endlessly searching for truth despite scorn and lack of war-like glory.⁷⁵ By describing scientists as knights, evident by their use of 'iron arms', Ross romanticises the pursuit of scientific truth and equates intellectual ability with masculine virility.⁷⁶ Ross would later imply that this conceptualisation of scientists as knights was outmoded, openly ridiculing the notion in *Science Progress*, examined in Chapter Four of this thesis. In the poem, scientists are those who '[h]ave dared to follow Truth alone, and thence / to teach the truth – nor fear'd the rage that rose.'⁷⁷ As in *Fables*, Truth is personified throughout *Philosophies*, identified in this instance as Christ-like for soliciting devoted disciples. The personification of truth is a common trope of the work of scientific naturalists, with DeWitt identifying 'incarnations of this character' in the work of scientists Johannes Kepler (1571-1630), Isaac Newton (1642-1727), and William Whewell (1794-1866).⁷⁸ According to the poem, these knights of science receive 'no piled-high monuments' and 'no flaming death', again equating their intellectual search for truth with a physically laborious task, such as war, for which these forms of recognition might be expected.⁷⁹ Michael Brown finds this equation of medical work with military valour a common trope in the nineteenth century and beyond: 'by the turn of the [twentieth] century [...] an aggressive militarism once again seems to have permeated medical discourse'.⁸⁰ Brown identifies the 'army surgeon' (the place Ross held

⁷⁴ Ross, *Memoirs*, p. 525.

⁷⁵ Ronald Ross, 'Science' in *Philosophies* (London: John Murray, 1923), l. 1.

⁷⁶ Emilie Taylor-Brown, '(Re)Constructing the Knights of Science: Parasitologists and their Literary Imaginations', *Journal of Literature and Science*, 7 (2) (2014), 62-79 (p. 63).

⁷⁷ *Ibid.*, ll. 3-4.

⁷⁸ DeWitt, p. 27.

⁷⁹ Ross, 'Science', l. 5, l. 6.

⁸⁰ Michael Brown, "'Like a Devoted Army": Medicine, Heroic Masculinity, and the Military Paradigm in Victorian Britain', *Journal of British Studies*, 49 (3) (July 2010), 592-622 (p. 614).

in the IMS until 1899) as one particular class of medical worker using military rhetoric to evidence ‘bravery and fortitude’.⁸¹

Later in the poem, Ross utilises the metaphor of dark and light to symbolise ignorance and enlightenment, harkening back to his article in *The University Review* where he wishes a new defender of science ‘would but turn the cold light of science into the numerous crannies [...] of the world’:

Alas! We sleep and snore beyond the night,
Tho’ these great men the dreamless daylight show;
But they endure- the Sons of simple Light-
And, with no lying lanthorne’s antic glow,
Reveal the open way that we must go.⁸²

The readership’s ignorance is identified as a deep sleep from which we cannot be awoken, while scientists toil in reality or ‘dreamless daylight’. Scientists are named ‘Sons of simple Light’, confirming the personification of Truth as a prophetic figure and therefore fashioning scientists as faithful apostles. As mentioned in Chapter One, the first generation of scientific naturalists saw their ‘attacks’ on Christianity as part of a “New Reformation”: they ‘used religious symbols and language as a strategy’ to confirm this reformation, ‘despite [...] attacks on theological tradition’.⁸³ Ross incorporates this scientific rhetoric around the New Reformation into his poetical works.

Under the section ‘Labours’, Ross publishes the poem ‘The Star’. Here, the poetic voice is on a metaphorical journey towards truth, symbolised by the star. Again, Ross identifies science as an advancement of Christianity, and scientists as the new Magi following scientific reasoning towards truth. The three repetitions of ‘far across’ during the opening quatrain, emphasise the length and the struggle towards truth.⁸⁴ Ross again uses

⁸¹ Ibid., p. 621.

⁸² Ronald Ross, ‘Science and the Public’, *The University Review*, 1 (April-September 1906), 22-38 (p. 34).
Ross, ‘Science’, ll. 10-14.

⁸³ Matthew Stanley, *Huxley’s Church and Maxwell’s Demon: Science to Naturalistic Science* (Chicago: University of Chicago Press, 2014), p. 26.

⁸⁴ Ronald Ross, ‘The Star’ in *Philosophies* (London: John Murray, 1923), ll. 1-2.

the metaphor of light and dark for knowledge and ignorance respectively as the poetic voice cries out ‘Ever art thou beaming. I, with eyes upcast, / Gazing worn and weary from this Dark World’.⁸⁵ This poem functions then as a prayer for knowledge, casting the poetic voice as a devotee calling for an answer from God. As with Ross’s previous poems about Truth, ‘The Star’ endorses the notion of science as an advancement of Christianity.

Ross confirms Truth as a divine entity in the poem ‘Petition’. The poetic voice bluntly explains: ‘Truth, whom I hold divine, / Thy wings are strong to bear / Thro’ day or desperate night’.⁸⁶ In this autobiographical poem, Ross reveals that this notion of truth as divine has borne him through the hardships of his research. The poem continues ‘For, ever those eyes of thine, / Fix’d upward full of prayer, / Are seeking for the light’.⁸⁷ Here the poetic voice is in a stance of supplication, much like Zozimo, the virtuous protagonist of Ross’s final novel *The Revels of Orsera* discussed in Chapter Two, as they beg for knowledge. Again Ross equates intellectual vigour with physical strength, writing ‘Tho’ I so weak, thy wings / Stronger than him who, pen’d / In hell unmerited, buoy’d / Poets past infernal springs’.⁸⁸ The struggling poetic voice is bolstered by his belief in the divinity of truth, who he claims is stronger than Dante Alighieri (1265-1321), the author of the *Divine Comedy* (1320). Ross aligns the poetic voice journeying towards scientific truth, with Dante’s journey towards God. In ‘Petition’ then, Ross again situates himself as an apostle of science and arbiter of truth, glorifying his work as a medico-scientific researcher.

The Poetic Voice of the Coloniser Physician

After dismantling the clergy and replacing them with scientists as intellectual and moral authorities in society, which he continues to reinforce in *Philosophies*, the arc of Ross’s

⁸⁵ Ibid., ll. 5-6.

⁸⁶ Ronald Ross, ‘Petition’ in *Philosophies* (London: John Murray, 1923), ll. 1-3.

⁸⁷ Ibid., ll. 4-6.

⁸⁸ Ibid., ll. 9-12.

corpus of poetry also progresses to address Ross's fears of degeneration. According to Daniel Pick, from the mid to late-nineteenth century there was 'an enormous output of medical and natural scientific writings on social evolution, degeneration, morbidity and perversion'.⁸⁹ Richard Barnett confirms that physicians and scientists

sought to extract debates over morality, morbidity and perversion from their typically political, religious or philosophical contexts and to redescribe them in terms of new biological knowledge, fusing scientific theory and social criticism.⁹⁰

More specifically, Baron and Hamlin identify Ross as a man 'infected with imperial anxiety': Ross believed that disregarding of scientific truth could cause degeneration in Britain and her colonies and, ultimately, the downfall of the British Empire.⁹¹ While his imperial anxieties are gestured to in his novels, explored in Chapter Two of this thesis, nowhere in Ross's work is the 'imperial anxiety' of degeneration as clear as in *Philosophies*, where he recounts his experiences as a medico-scientific researcher in India. As Ross mentioned in the preface to *Philosophies*, these poems were 'notes of the wayside' to his malarial discovery, featuring the distinct poetic voice of the coloniser physician.⁹² In *Philosophies*, there appears an overarching narrative of the colonial medico-scientific researcher viewing the degenerative nation, seeking knowledge to stop degeneration spreading to his own homeland, and finally discovering the solution. Characteristically, Ross views this journey through the lens of a scientific naturalist, 'turning science into a religion'.⁹³ In his poetry, Ross imagines his trails towards his pioneering medico-scientific discovery as a harrowing religious pilgrimage towards scientific truth.

⁸⁹ Daniel Pick, *Faces of Degeneration: A European Disorder, c.1848-1918* (Cambridge: Cambridge University Press, 1993), p. 20.

⁹⁰ Richard Barnett, 'Education or Degeneration: E. Ray Lankester, H. G. Wells and the Outline of History', *Studies in History and Philosophy of Biological and Biomedical Science*, 37 (2) (June 2006), 203-229 (p. 206).

⁹¹ Baron and Hamlin, p. 333.

⁹² *Ibid.*, p. i.

⁹³ DeWitt, p. 33.

‘India’ opens the collection with the lines: ‘Here from my lonely watch-tower of the East / An ancient race outworn I see - / With dread, my own dear distant Country, lest / The same fate fall on thee.’⁹⁴ The poetic voice of the coloniser physician stands above and apart from the degenerating race, monitoring them from a place of authority. The voice epitomises Arnold’s notion of the travelling gaze, already identified in Ross’s quasi-anthropological view of the Andaman Island natives in *The Child of Ocean* in Chapter Two.⁹⁵ It amalgamates the dehumanisation of the medical gaze with travel to a different country to capture scientific knowledge, both of which are crucial to Ross’s work. The second line introduces an observed group, an ‘ancient race outworn’. In the preface of *In Exile*, which is largely a republication of *Philosophies*, Ross comments that ‘[the Indian people] presented the spectacle of an ancient civilisation fallen for centuries into decay. One saw there both physical and mental degeneration’.⁹⁶ Howell explains that ‘during the period of New Imperialism (1870-1914) [...] malaria was reified as a disease “out there” rather than “right here”’.⁹⁷ ‘India’ invokes fear in the readership at the metropole by suggesting that degeneration could spread and contaminate the poetic voice’s ‘own dear distant Country’. Indeed, Howell notes that Ross and his contemporaries appealed for public attention ‘by invoking the fear of reverse colonisation by disease – malaria flowing back into the imperial centre’.⁹⁸ Ross brings his experience of disease in the colonies right into the homes of his British readership with these autobiographical poems, attempting to give degeneration a sense of being “right here”, thereby motivating action. In the concluding two lines of the opening quatrain, the reader discovers the reason for the observation: the observer hopes to stop the decay spreading to his homeland. The poem separates the words ‘my own dear distant Country’ from the rest of the quatrain with a

⁹⁴ Ronald Ross, ‘India’ in *Philosophies* (London: John Murray, 1923), ll. 1-4.

⁹⁵ David Arnold, *The Tropics and the Traveling Gaze: India, Landscape, and Science, 1800-1856* (Washington: University of Washington Press, 2006), p. 30.

⁹⁶ Ross, *In Exile* (London: Harrisons and Sons Ltd, 1931), p. vi.

⁹⁷ Howell, p. 6.

⁹⁸ *Ibid.*, p. 7.

comma on either side, emphasising the poetic voice's attempt to halt the spread of contagion. The image of the home country is separated from the images of disease in the colony, just as the poetic voice separates himself from the diseased other. The poetic voice must observe with the specialist gaze of the colonial physician to perceive something that will stop contagion spreading from the other (i.e. Indian people) to colonisers and even to the metropole.

The second stanza of 'India' categorises Indians by their caste and their afflictions. Susan Bayley notes that the British Empire developed 'many manifestations of caste language and ideology into its structures of authoritative government.'⁹⁹ This language is evident in Surgeon-Major Theodore Duka's 1894 speech on Tropical Medicine delivered at the Eighth International Congress of Hygiene and Demography, as he remarks: 'As a child of a hot climate, the disposition of the native is naturally apathetic, he desires to be left alone, to live and die in the caste in which he was born'.¹⁰⁰ The poetic voice observing the degeneracy identifies a 'curst caste' made up of men 'that creep', 'leprous beggars' and 'baser sultans'.¹⁰¹ Through the conflation of illness and caste, the poetic voice makes the Indian people appear sub-human and beyond any kind of assistance, since they are cursed with illness simply by existing in the caste system. According to this poem then, Indians are only useful for observation in order to save the metropole from a similar epidemic. The poem continues: 'the lean ones cry; the fat ones curse and beat'.¹⁰² This line further emphasises the native peoples' apparent sub-human status through Ross's use of zoomorphism to imply their inability to produce language. The subjects of the poem are unable to articulate effectively their degeneration, whereas the coloniser stands over them able to document their case in a highly stylised form.

⁹⁹ Susan Bayley, *Caste, Society and Politics in India: from the eighteenth century to the modern age* (Cambridge: Cambridge University Press, 2001), p. 4.

¹⁰⁰ Theodore Dukas, 'An Address on Tropical Medicine', *The Lancet*, 144 (3706) (8 September 1894), 561-564 (p. 561).

¹⁰¹ Ross, 'India' in *Philosophies*, ll. 5-8.

¹⁰² *Ibid.*, l. 15.

‘India’ embodies the colonial physician’s power to observe and judge both the culture and the physical degeneracy of the colonised people. The poem firmly positions the knowledgeable poetic voice seeking to view, learn about, and prevent the spread of illness above that of the diseased, sub-human, colonised race. The poetic voice documents his findings within this poem, whereas the colonised remain a voiceless amorphous group, only separated by the coloniser’s ideas of caste and affliction. At the conclusion, the poetic voice cries to heaven: ‘O Heaven [...] / Cannot the mind that made the engine make / A nobler life than this?’¹⁰³ Here there is a stark juxtaposition between world-altering advances in technology signalling progress, such as the engine, with supposed degeneration and decay of the colonial subjects. These lines confirm the poetic voice as both physically and intellectually above his patients. He is physically closer to Heaven and so is able to create a link between the creator and the decaying people who can no longer speak for themselves. The poetic voice has judged that by being both a physician and coloniser he is lifted closer to God, whereas in his view, being a colonised, sick Indian brings you closer to animality and makes you unable to speak.

As in ‘India’, tropical climes feature as a place of degeneration and ignorance in ‘Sonnet’. The poetic voice addresses his ‘High Muse’ who appears again to be truth personified, as the poetic voice claims that the muse ‘[d]idst touch my infant eyes and fill with light’, symbolising knowledge.¹⁰⁴ In ‘Sonnet’, the poetic voice appears to have a kind of unrequited love for his muse who has left him in a barren land. The poetic voice entreats:

Revisit me; resume my soul; inspire
With force and cold out of the north – not given
to sickly dwellers in these southern spots,
Where all day long the great Sun rolls his fire
[...]

¹⁰³ Ibid., ll. 19-20.

¹⁰⁴ Ronald Ross, ‘Sonnet’ in *Philosophies* (London: John Murray, 1923), l. 5.

And the heart shrivels and the spirit rots.¹⁰⁵

With the words ‘resume my soul’, the poetic voice suggests a state of paralysis or stagnation in the tropics, perhaps hinting that he may be feeling the effects of reverse colonisation. At the conclusion, he notes the place in which he wrote ‘Sonnet’: Madras. This addition to the conclusion of the poem identifies ‘Sonnet’ as autobiographical, alerting the reader that this poem may contain genuine thoughts of Ross’s while in Madras. The poetic voice pleads with the muse to bring about ‘cold out of the north’ to provide inspiration to achieve knowledge, suggesting that only in healthy European climes can knowledge be gained. This notion of knowledge only being accessible in temperate climates is confirmed when the poetic voice claims that it is ‘not given / to sickly dwellers in these southern spots’. In this poem then, inhabitants of Madras are presumed ignorant and weak because of the climate in which they were born. The use of the word ‘dwell’ implies a languid nature about those living in India. The sibilant line referencing ‘sickly’ people in ‘southern spots’, emphasises the insignificance of the tropics to the poetic voice (describing a place as a ‘spot’, rather than identifying it by name), as well as the inherent sickliness of the region (an alternate definition of ‘spot’ is a ‘small localized lesion [...] typically discoloured and often raised, resulting from disease or infection’).¹⁰⁶ Using the pronoun ‘these’ when describing the areas he dislikes, the poetic voice places distance between himself and the area in which he is conducting his work. The poetic voice emphasises the heat of Madras in the fourth line, noting the enormous size of the sun that physically affects the land by ‘roll[ing] his fire’. The visceral details of the heart and the spirit degenerating highlights the physical and emotional impact of sickly tropical conditions on the heroic coloniser physician.

¹⁰⁵ Ibid., ll. 8-14.

¹⁰⁶ ‘spot n. and adv’ in *The Oxford English Dictionary* [online], URL: <https://www.oed.com/view/Entry/187518?rskey=IU89Fo&result=1&isAdvanced=false#eid> [Accessed: 16 May 2020].

The next poem in *Philosophies*, 'Vision', brings to the forefront the notion that the poetic voice is able to view and analyse in a unique way. The term vision also suggests an individual's ability to foretell future events. These multifarious meanings are confirmed with the definition of vision: 'Something which is apparently seen otherwise than by ordinary sight; esp. an appearance of a prophetic or mystical character, or having the nature of a revelation'.¹⁰⁷ In the poem, rocks are described 'like bones of mouldering mountains', and the mountains are 'doom'd or dead', the sun is 'sore-spent' sinking 'in fire', before the 'swollen-pale' 'leprous Moon' ascends into the sky.¹⁰⁸ This depiction of tropical degeneration directly contrasts with the European landscapes in an earlier poem, 'Thought', where the poetic voice identifies the 'Spirit of Thought' not amid 'marish flowers', but 'on the mountains' or near 'keeps of snow'.¹⁰⁹ The poetic voice likens the landscape in 'Vision' to a body decaying after death and the coming of night to the body overcome by disease. Thus, the coloniser physician poetic voice diagnoses the land as diseased, implicitly hinting at the sickness of those who are native to the land and suggesting that he is potentially in danger. This poem can also be read as another metaphor of toil for knowledge: the coloniser physician's motivation is dwindling, bringing about despair and allowing degeneration to continue unchecked.

'The Indian Mother' describes the poetic voice overwhelmed with the knowledge he has so long been striving to acquire in previous poems:

Full fed with thoughts and knowledges sublime,
And thundering oracles of the gods, that make
Man's mind the flower of action and of time,
I was one day where beggars come to take
Doles ere they die.¹¹⁰

¹⁰⁷ 'Vision, n.' in *The Oxford English Dictionary* [online], URL: <http://www.oed.com/view/Entry/223943?rskey=e1fdrc&result=1&isAdvanced=false#eid> [Accessed: 16 May 2020].

¹⁰⁸ Ronald Ross, 'Vision' in *Philosophies* (London: John Murray, 1923), l. 2., l. 4., l. 7., l. 8., l. 11., l. 12.

¹⁰⁹ *Ibid.*, l. 1, l. 3., l. 5.

¹¹⁰ Ronald Ross, 'The Indian Mother' in *Philosophies* (London: John Murray, 1923), ll. 1-5.

The description of sublime forms of knowledge suggests a rarefied, specialist training the likes of which Ross might be suggesting he undertook in order to uncover malaria transmission. However, the poetic voice enhances and emphasises this powerful form of knowledge, suggesting that his mind is also filled with divine oracles, defined as a ‘vehicle or medium of divine communication; a person who or thing which expounds or interprets the will of God’.¹¹¹ Medico-scientific knowledge is imagined as something that can metaphorically raise someone to the status of prophet, similar to the watch-tower physically raising the poetic voice to a higher plain in ‘India’. Arnold’s notion of the travelling gaze is then evident again, as the poetic voice seeks to observe and document the actions of the people of India. Like ‘India’, this poem constructs a careful juxtaposition between the skilled and knowledgeable poetic voice and the Indian people to ensure that, although the poetic voice is now amongst the people, he is not to be perceived as one of them. This is particularly striking in the last two lines of the opening sentence, where the poetic voice is ‘I’, but the place where the poem is set is where ‘they’ bring doles for their dead. The description of the Indian woman that follows further highlights this separation of coloniser physician poetic voice from the colonised people. The description also introduces an alternate perspective: that of the starving colonised woman.

Lines four to thirteen of ‘The Indian Mother’ are dedicated to the description of the mother figure. This description is separated from that of the poetic voice by a new sentence and a new line. As in ‘India’ this demonstrates the poetic voice’s attempt to keep the contagion of degeneracy siloed in the colonies. The mother’s appearance is noted by the poetic voice as ‘so wretched that her staring eyes / Shone like the winter wolf’s with ravening glare of hunger’.¹¹² The poetic voice dehumanises this mother-figure using zoomorphism. The mother’s gaze is characterised as animalistic and therefore antithetical

¹¹¹ ‘Oracle, n.’ in *The Oxford English Dictionary* [online], URL: <http://www.oed.com/view/Entry/132135?rskey=jQDjNd&result=1&isAdvanced=false> [Accessed: 4 December 2016].

¹¹² Ross, ‘The Indian Mother’, ll. 6-8.

to the poetic voice whose gaze is ‘sublime’. She is a wolf, an animal known to stay in packs, and so this simile then becomes applicable to the entirety of India. Additionally, she is seen to ‘glare’, rather than ‘see’, so her emotional state is presumed before she speaks. When she speaks, it is only to explain her action to the critical medical travelling gaze who is detailing her movements: “I am too poor,” she said, / “To feed him otherwise” and with a kiss / fell back and died.’¹¹³ The lines suggest an understanding of the poetic voice’s medical gaze that is upon her and the rest of her country. It also indicates that she feels it necessary to provide an excuse for her perceived degeneracy and perceived subhuman status, indicating that she is responsible for both and presumes that she will be held accountable by the poetic voice, who has colonised first her country and now her body. Arnold describes this colonising of the body, arguing that:

Colonialism used [...] the body as a site for the construction of its own authority, legitimacy, and control. In part, therefore, the history of colonial medicine, and of the epidemic diseases with which it was so closely entwined, serves to illustrate the more general nature of colonial power.¹¹⁴

Thus, the image of the colonised woman excusing herself from the gaze of the coloniser physician for her starvation and illness appears as a larger metaphor for the disapproving gaze of the British on the perceived degeneracy of India. The coloniser physician frames ‘The Indian Mother’, enabling him to view and explain the actions of the mother. The concluding lines read: ‘And the soul answered, / “In spite of all the gods and prophets – this!”’¹¹⁵ The soul of the coloniser physician is in torment over the death of the Indian woman. These lines evoke sympathy for the poetic voice rather than the Indian woman as they appear after her death, overshadowing it.

¹¹³ Ibid., l. 11-13.

¹¹⁴ David Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India* (Cambridge: Cambridge University Press, 1993), p. 8.

¹¹⁵ Ross, ‘The Indian Mother’, ll. 15-16.

‘Ganges-Borne’ provides another instance of the poetic voice witnessing the degeneration of India, but here God also appears to view the horror. The poem begins with a deceased man floating along the river:

The fingers which had stray'd
Thro' shining clusters of his children's hair
Now lifeless moved, and play'd
With horrible tresses of the ripples there;¹¹⁶

The poetic voice has witnessed the man in the past, as he cared for his children whose hair shone, suggesting good health. Now lying in the Ganges, the locks of hair are replaced with murky waters described as ‘horrible tresses’, insinuating degeneration of the land. The implication here is that, like his children, the river also required care, but it has instead become polluted. At the close of the poem, God’s face appears as a ‘luminous cloud’ through the ‘midnight, black and horrible gloom.’¹¹⁷ God watches the degeneration of the land, without acting. The poetic voice identifies and articulates the disappearance of health and appearance of Godly light. The coloniser physician, like God, is here to witness and document the decay of a civilisation.

Rather than documenting visions, the first stanza of ‘Indian Fevers’ opens with the same poetic voice taking action: ‘I pace and pace, and think and think, and take / the fever'd hands, and note down all I see, / That some dim distant light may haply break.’¹¹⁸ The enjambment here adds to the fluidity of both the poem and, by extension, the movement of the poetic voice. The repetition of ‘pace’ and ‘think’ add to the interconnected sense of action and intervention. The sudden movement in this poem implies progress towards a different state of being for diseased Indian people than in previous poems in *Philosophies*. ‘Indian Fevers’ evokes the poetic voice seeking medical knowledge in an effort to bring the light of knowledge to the darkness of disease. Indeed,

¹¹⁶ Ronald Ross, ‘Ganges-Borne’ in *Philosophies* (London: John Murray, 1923), ll. 1-4.

¹¹⁷ *Ibid.*, ll. 11-12.

¹¹⁸ Ronald Ross, ‘Indian Fevers’ in *Philosophies* (London: John Murray, 1923), ll. 2-4.

there is a direct correlation between observation, knowledge, and creating light.

Commenting on the medical gaze, Foucault suggests that: ‘the eye becomes the depository and source of clarity; it has the power to bring a truth to light that it receives only to the extent that it has brought it to light’.¹¹⁹ The poetic voice is amongst his patients to gaze and bring to light knowledge of their illness to prevent the fever spreading. However, Foucault’s comment also proposes that the medical gaze searches for medical knowledge for his own ends, in the same way that New Imperialism glorified colonisation for the sole reason of adding to the British Empire.¹²⁰ Indeed, the coloniser physician in ‘Indian Fevers’ can be read in that light: they note the illnesses of the Indian people, but not to heal or cure them, merely to subject them to his medical gaze for other ends (i.e. to ensure colonisers no longer risked their lives while expanding the empire). Ross treated the Indian people as research subjects for his medical experimentation; his research was an opportunity to explore the degeneration of a civilisation before degeneration fell upon his own ‘homeland’, as he explains in the opening poem ‘India’.

‘Indian Fevers’ is an ideal example of Ross presenting to the British public the hardships of the colonial physician, while glossing over the emotional turmoil of the colonised people and research subjects. The ‘fever’d hands’ evidences the poetic voice’s view of the colonised research subject as primarily a body, or particular body parts, rather than a complete person. Stanza two of ‘Indian Fevers’ opens with the same idea of compartmentalising the bodies of subjects through the medical gaze: ‘The painful faces ask, can we not cure? / We answer, No, not yet; we seek the laws.’¹²¹ The patients’ uncertainty and questioning contrasts with the knowledgeable and confident poetic voice. The lack of knowledge from these patients is further highlighted, as, instead of the name of

¹¹⁹ Michel Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception* (London: Tavistock Publications, 1973), p. xiii.

¹²⁰ Bradley Deane, *Masculinity and the New Imperialism: Rewriting Manhood in British Popular Literature, 1870-1914* (Cambridge: Cambridge University Press, 2014), p. 9.

¹²¹ Ross, ‘Indian Fevers’, ll. 5-6.

the illness, there is a question mark, insinuating their ignorance. As in ‘Indian Mother’, the research subject’s words are framed by that of the voice of the physician, emphasising the importance of his interpretation and analysis of the patients and their illness, rather than the patients’ understanding. The poetic voice then directly speaks to God: ‘O God reveal thro’ all this thing obscure / The unseen, small, but million-murdering cause’.¹²² The end goal of the poetic voice then is not to save the ‘fever’d hands’ or ‘painful faces’ whose illness he is documenting. Rather, he uses them as research tools to gain medical knowledge.

Ross opens the section ‘In Exile’ with ‘Desert’, a poem encouraging hope during fruitless research efforts. The poetic voice appears hopeful, despite a clear lack of progress: ‘This profit yet remains / Of exile and the hour / That life in losing gains / Perhaps a fuller flower.’¹²³ This opening stanza appears reminiscent of Ross’s reference in *Memoirs* to his ‘self-imposed duty’ to take up his malaria work: he lost the opportunity to pursue other goals, perhaps more personally meaningful goals, but if he is successful here, it may yield a globally meaningful result. In stanzas eleven and twelve, the poetic voice contemplates his hard work:

So one who sought a land
Where all the earth is ore;
But had he sifted sand
He would have gather’d more.¹²⁴

Here the poetic voice clearly explains that those who work to advance knowledge will be more greatly rewarded than those who accept what is already known as all that can be known. This sentiment starkly contrasts with Ross’s bitter writing later in life, where he ardently complains about lack of recognition for his malaria work, clearly indicating a key shift in his self-presentation over time.

¹²² *Ibid.*, ll. 7-8.

¹²³ Ronald Ross, ‘Desert’ in *Philosophies* (London: John Murray, 1923), ll. 1-4.

¹²⁴ *Ibid.*, ll. 45-48.

Later in the poem, Ross works to present an image of India as a decaying landscape. The poetic voice recounts the creation of earth by the personified Sun, who leaves half of earth in a state of ‘clamorous cries’, ‘everlasting light’, ‘desert tracts’ and ‘heavy thunders’, ‘typhoons’, and ‘skies of many moods, / None fruitful’: ‘This is the land of Death’.¹²⁵ The implication here seems to be that India, or tropical climes more generally, are landscapes that the personified Sun neglected and so left to rot. This notion of the landscape perhaps being an image of degenerating India seems to be confirmed later with the lines ‘Great East, disastrous clime; / O grave of things that were; O catacombs of time’.¹²⁶ While the previous description suggests that these landscapes were never developed, this second image of the East implies that it was once a developed nation, as the poetic voice can view the ‘things that were’. These comments confirm the landscape to be India, as they link this poem to the first poem in the collection, ‘India’. This poem also resonates with Ross’s comments in the preface of *In Exile*, which is largely a republication of *Philosophies*, where he comments that ‘[the Indian people] presented the spectacle of an ancient civilisation fallen for centuries into decay’.¹²⁷

Ross entitles the second poem of the section ‘Vox Clamantis’, which translates to ‘the voice crying out’.¹²⁸ The title is borrowed from John Gower’s (1330-1408) ‘all-encompassing poetic analysis of the world’ in his Latin poem of 10,265 lines.¹²⁹ This title seems fitting for a poem where the poetic voice laments the emotional toil of conducting medico-scientific research. At first, there appears a conflict between two personified emotions: Sorrow and Wisdom. Just as the coloniser physician poetic voice is about to be taken away from his studies by Sorrow, ‘waiting Wisdom smiled / And took [his] hand

¹²⁵ *Ibid.*, l. 73; l. 74.; l. 90.; l. 99.; l. 113.; l. 116-117.; l. 157.

¹²⁶ *Ibid.*, ll. 170- 173.

¹²⁷ Ross, *In Exile*, p. vi.

¹²⁸ Matthew W. Irvin, ‘Voices and Narrators’, *The Routledge Research Companion to John Gower* ed. by Ana Saez-Hidalgo, Brian Gastle, R. F. Yeager (New York: Routledge, 2017), 237-254 (p. 244).

¹²⁹ Robert J. Meindl, ‘The Latin Works’, *The Routledge Research Companion to John Gower* ed. by Ana Saez-Hidalgo, Brian Gastle, R. F. Yeager (New York: Routledge, 2017), 341-355 (p. 343).

instead'.¹³⁰ As in the previous poem, Ross again uses flowers as a metaphor for the fruition of work. He imagines the poetic voice's thoughts as delicate flowers that must be carefully tended to if they are going to bloom:

From his poor cot he wends
At early break of day;
His pretty charges tends
In his unskilful way.

Much wearied with his toil
He labours thro' the hours,
And pours upon the soil
Refreshment for his flowers.¹³¹

The brutal life of the poetic voice is made clear here, as he leaves his 'poor cot' as early as he is able, attempting to conduct the best possible work despite his 'unskilled ways'. Later, the poetic voice is identified as being 'bent with aged stoop, / To him no rest is given', furthering his discomfort by removing the little rest provided by the 'poor cot'.¹³²

However, there is hope, since this unskilled labour is providing 'refreshment' or results that allow ideas to develop. The coloniser physician poetic voice imagines that, one day, he will be able to make 'the heads of those that droop' rise 'up to heaven'.¹³³ This metaphor of the drooping flower seems to be in reference to sickly patients who, through the dissemination of the coloniser physician's knowledge, will be well again. As in 'Deserts', the end of 'Vox Clamantis' marks the poetic voice's hope of gratitude upon completing his arduous work. With an exhausted but hopeful tone, the coloniser physician declares

But at the evening hour
When he shall seek repose,
The voice of every flower
Will bless him as he goes.¹³⁴

¹³⁰ Ronald Ross, 'Vox Clamantis' in *Philosophies* (London: John Murray, 1923), ll. 39-40.

¹³¹ *Ibid.*, ll. 129-136.

¹³² *Ibid.*, ll. 137-138.

¹³³ *Ibid.*, ll. 139-140.

¹³⁴ *Ibid.*, ll. 141-144.

The implication here is that the coloniser physician's work is made worthwhile because it will be acknowledged by 'every flower' he is helping. This line then clearly links to Ross's later desires for recognition, explored in Chapter One, as the poetic voice recognises this as the ultimate reward for medico-scientific labour. The notion that every patient will 'bless' the coloniser physician as he passes brands him a revered figure for those who are sick in the tropics.

In the poem 'The Monsoon', the narrative arc progresses as the poetic voice gains the medical knowledge that he has longed for throughout the collection. Here, the reader is presented with the direct connection of the coloniser physician poetic voice to his divine inspiration. The direct connection of the coloniser physician with the divine is foregrounded, with the voice addressing the figure of the Angel:

Art thou an Angel – speak,
Stupendous Cloud that comest?
What wrath on whom to wreak?
Redeemest thou, or doomest?

Thine eyes are of the dead;
A flame within thy breast;
Thy giant wings outspread,
Like Death's, upon the West.¹³⁵

The poetic voice directly questions the Angel in an aggressive tone. He commands the Angel to speak in order that he might know the fate of his homeland, represented by the 'West'. He is unsure of the Angel's purpose at first, but then upon observing he identifies it as the Angel of Death. Although the poetic voice is situated in India (which becomes clear later in the poem), when he sees the Angel of Death, he only imagines its wings spreading across the West, the coloniser's homeland. This notion of tropical disease spreading to the homeland aligns with Ross's New Imperialist ideology: he observes the degeneracy of the Indian people in order to understand their illness, not in an attempt to save them, but to halt

¹³⁵ Ronald Ross, 'The Monsoon' in *Philosophies* (London: John Murray, 1923), II. 25-33.

any possibility of the contagion spreading to the West. As suggested in all the previous poems pertaining to India, the colonised people have degenerated too far to benefit from medical attention; therefore, they are treated not as patients but as research subjects in order to save the West from similar devastation. In later quatrains, the heroic poetic voice appears to be cast as Moses. In Exodus, Moses is in the desert of Sinai and in this poem the poetic voice cries ‘O Desert rent and riven’.¹³⁶ Here, God has physically given the poetic voice a form of knowledge with which he can protect his homeland, much like God gave Moses the two stone tablets inscribed with the Ten Commandments after he had led the Jews out of Egypt.

The following poem, ‘Reply’, signifies God’s answer to the hero colonial physician toiling to gain medical knowledge. The first quatrain of ‘Reply’ figures the poetic voice not just as a hero of the British Empire, but as a prophet:

This day relenting God
Hath placed within my hand
A wondrous thing; and God
Be praised. At his command,¹³⁷

In *Philosophies*, Ross marks this quatrain as distinct by adding the date August 21 1897, and in *In Exile* he writes that this quatrain was ‘written the day after the discovery of the parasites of malaria in mosquitoes’.¹³⁸ This quatrain aims to add a sense of glory to his discovery of malarial transmission and so there is no mention of India or the Indian people, except to say that he will soon be out of exile and back to his home. It was this quatrain that became Ross’s most famous lines of poetry, printed in various newspaper on the publication of *In Exile* (1931), marking out the important role of poetry in shaping his public persona.¹³⁹ Later, the poetic voice appears to be cast as a prophetic figure, similar to

¹³⁶ Ross, ‘The Monsoon’, l. 22.

¹³⁷ Ronald Ross, ‘Reply’ in *Philosophies* (London: John Murray, 1923), ll. 1-4.

¹³⁸ Ross, *In Exile*, p.vi.

¹³⁹ For examples of Ross’s quatrain being published in contemporaneous newspapers, see Anonymous, ‘Saviour of a Million’, *Hartlepool Northern Daily Mail*, 13 May 1931, pp. 4; Anonymous, ‘Conqueror of

‘Monsoon’, as he says: ‘Tho’ I was beat and bound, / Thou gavest me victory’.¹⁴⁰ The victory is the ultimate power of the medical gaze that can now understand this specific illness and disease, named only as ‘million murdering Death’.¹⁴¹ The poetic voice now endowed with medical knowledge talks of God ‘who made high [his] fate’, focusing on the adulation he will receive because of the knowledge God has given him.¹⁴² ‘Reply’ is a culminating point within the narrative arc of this collection in fashioning the medico-scientific researcher as a hero or prophet having received medical knowledge from God.

Quatrains thirty-four to thirty-six highlight the isolation required for the coloniser physician to conduct research, as the poetic voice is depicted as a ‘caged bird’ that must learn to understand why he has been held captive:

The caged bird awake
All night lament his doom,
And hears the dim dawn break
About the darken’d room;

But in the day he sips,
Contented in his place,
His food from human lips,
And learns the human face.

So tho’ his home remain
Dark, and his fields untrod,
The exile has this gain,
To have found the face of God.¹⁴³

The cage in which the bird is trapped appears to represent the colony in which the poetic voice is trapped. Indeed, in his 1909 speech given at the London School of Tropical Medicine on ‘The Nation and the Tropics’, Osler commented that: ‘No one has expressed more deeply this sentiment of lonely isolation in the Tropics than Ronald Ross in his poem

Malaria’, *Dundee Evening Telegraph*, 13 May 1931, pp. 6.; Anonymous ‘Celebrated in Poetry’, *Gloucester Journal*, 16 May 1931, pp. 6.

¹⁴⁰ Ross, ‘Reply’, ll. 19-20.

¹⁴¹ *Ibid.*, l. 8.

¹⁴² *Ibid.*, l. 14.

¹⁴³ *Ibid.*, ll. 41-52.

‘In Exile’’, which, as previously mentioned, is largely a reprint of *Philosophies*.¹⁴⁴ The notions of darkness and of ‘fields untrod’ suggest a place where knowledge is not easily discovered, since in previous poems knowledge has been figured as light. The poem confirms that exile has been worth the suffering as the coloniser physician has learnt ‘the human face’ and therefore ‘found the face of God’. Thus, the medical gaze has allowed the poetic voice to observe and learn something over time that has given him unique and powerful medical knowledge. In fact, this knowledge may enable the coloniser physician poetic voice to become the mouthpiece of God, as the closing lines read: ‘The voice of God is heard / Not in the thunder-fit; / A still small Voice is heard, / Half-heard and that is it.’¹⁴⁵ It appears then that the coloniser physician hears the voice of God as the biblical Elijah did. By comparing the coloniser physician with Elijah, Ross implies that the poetic voice is now able to understand God’s workings and act as God’s prophet.

The final section of *Philosophies* is entitled ‘Pæan’, ‘a hymn of thanksgiving for deliverance, victory in battle [...] addressed to Apollo [...]; (hence also) a war song invoking such victory’.¹⁴⁶ The last three poems celebrate Ross’s victory on concluding his malaria work. In the poem ‘Man’, Ross celebrates the victories of all men of science and their work to ‘putteth the world to scale’.¹⁴⁷ Ross highlights the bravery of discovery, claiming that there is ‘[N]o riddle of darkest night / he dares not look within’.¹⁴⁸ In his poem ‘Life’, he similarly celebrates proclaiming eternal victory: ‘he who can live well on earth / Does live in heaven for ever.’¹⁴⁹ Finally, in ‘World-Song’, the poetic voice stands before God and gives a direct address. In this moment, the poetic voice of the coloniser physician struggles to view God: ‘Thy white light like lamps alit in day; / Before Thee,

¹⁴⁴ William Osler, ‘An Address on the Nation and the Tropics’, *The Lancet*, 174 (4498) (13 November 1909), 1401-1406 (p. 1402).

¹⁴⁵ *Ibid.*, ll. 69-72.

¹⁴⁶ ‘Pæan, n.’ in *The Oxford English Dictionary* [online], URL: <https://www.oed.com/view/Entry/135950?rskey=RWCsrf&result=1&isAdvanced=false#eid> [Accessed: 16 May 2020].

¹⁴⁷ Ronald Ross, ‘Man’ in *Philosophies* (London: John Murray, 1923), l. 1.

¹⁴⁸ *Ibid.*, l. 9-10.

¹⁴⁹ Ronald Ross, ‘Life’ in *Philosophies* (London: John Murray, 1923), ll. 15-16.

Omnipotent, in sight of Thy glory, / Our countenance is witherèd like stars in the sun'.¹⁵⁰

The poetic voice then closes the short poem praising God by declaring that it was only through strength given by God that this work was achievable: 'O God, Thy voice and Thy thunder/ In utterance reiterate give glory and strength'.¹⁵¹ Ross then uses his belief in medico-scientific truth through God to elevate himself to the position of a moral and intellectual authority in the tropics, able to take up the position of witness to and healer of colonial disease.

An Intellectual Authority in England

Ross commemorates his malaria discovery in 'The Anniversary', written on 20 August 1917 and published in his *Poems* (1928). By marking the anniversary of the discovery detailed in *Philosophies*, the poems 'of the wayside', this poem provides a link in the narrative arc from one collection to the next. Ross includes the date of the anniversary in brackets as a subtitle, unusual for his poetry as dates are normally noted at the end of poems, thus marking out the importance of this specific date. The poem opens noting that twenty years have passed since Ross's discovery:

Now twenty years ago
This day we found the thing;
With science and with skill
We found; then came the sting -
What we with endless labour won
The thick world scorned:
Not worth a word to-day -
Not worth remembering.¹⁵²

Ross's bitterness regarding the neglect of his research findings is clear in this opening stanza. The disgruntled poetic voice describes the realisation that the hard-won discovery

¹⁵⁰ Ronald Ross, 'World-Song' in *Philosophies* (London: John Murray, 1923), ll. 2-4.

¹⁵¹ *Ibid.*, ll. 7-8.

¹⁵² Ronald Ross, 'The Anniversary' in *Poems* (London: Elkin Matthews, 1928), ll. 1-8.

described in *Philosophies* is ‘scorned’ by the public and felt by him as a ‘sting’; a shocking and unpleasant pain. The poetic voice laments that he is left to commemorate his discovery, described in the same way as in his famous lines from ‘Reply’ as ‘the thing’, while the supposedly unintelligent public remains silent, not deeming it ‘worth remembering’. The last line is repeated at the conclusion of the third stanza: ‘Some million lives a year, / Not worth remembering!’¹⁵³ While in the first stanza, Ross laments the neglect of his contribution to malaria research, in the third stanza he then also mourns the preventable fatalities that resulted from that neglect. Again, this line links back to ‘Reply’, where he describes malaria as ‘million murdering death’. The final stanza of ‘The Anniversary’, strikingly reminiscent of Ross’s poem ‘India’, marks the degeneration of those who deem scientific discoveries unworthy of remembrance: ‘Ascended from below / Men still remain too small [...] / They fight and bite and bawl, / These larval angels!’¹⁵⁴ As in ‘India’, people ‘fight and bite and bawl’ rather than speaking, implying their inability to articulate, contrasting this supposed lack of intelligence with the poetic voice, who can commemorate this anniversary in verse. Ross marks those who ignore his discovery as evolutionarily unadvanced: they are merely ‘larval’, marking their immaturity in terms of physical development using a metaphor from the lifecycle of the mosquito. Thus, ‘The Anniversary’ marks a further expansion upon the narrative arc suggested by Howell, as the poetic voice toiling for scientific progress in *Philosophies* becomes embittered in *Poems* as a result of a perceived failure to gain the acknowledgment that he clearly strove for. As Howell suggests of ‘In Exile’, *Philosophies* illustrates ‘science’s role in both forming and protecting the boundaries of an expatriate community – a kind of nationalist enterprise.’¹⁵⁵ ‘Anniversary’ then subsequently suggests that the heroic poetic voice returned to the metropole only to find a similarly degenerate populace who disregard the work he did to

¹⁵³ Ibid., ll. 24-25.

¹⁵⁴ Ibid., ll. 26-30.

¹⁵⁵ Howell, *Malaria and Victorian Fictions of Empire*, p. 148.

protect them and their assets. This shift from hope for the homeland to disgust and dismay evidences how Ross's poetic corpus as part of his self-fashioning across his medico-scientific career.

Fables and Satires, also published in 1928, adds new satirical poems which mix contempt for both the clergy, spiritualists, and educationalists in order to emphasise the supposed degeneration of the metropole. These targets align with figures chosen for castigation by Ross during his editorship of the popular science magazine *Science Progress*, explored in Chapter Four of this thesis. While the poems had been published in *The Setting Sun* in 1912 it was only with this publication that Ross sought to attach his name to the satires. Four of the six poems follow the same title form: 'Our Philosophers', 'Our Stage', 'Our Pronunciation of Greek and Latin', and 'Our Merits'. Repetition of 'our' highlights Ross's place as an insider when it comes to a critique of Britain; it implies his in-depth knowledge of British society. Establishing himself as a valuable member of English society seems of importance in the development of his status as a legitimate Briton and authoritative public intellectual towards the end of his career. Indeed, as mentioned in Chapter Two, *Memoirs* lingers on the exiled position of Ross as an Anglo-Indian: 'We were always doubly in exile. [...] Our memories are apt to make us, I think, almost aliens in the land of our fathers'.¹⁵⁶

'Our Philosophers' takes aim at supposed lies created by educationalists, religious authorities, and spiritualists. In a short sharp tone, the poetic voice claims that 'now our loftier sages reason / That reasoning is out of season'.¹⁵⁷ By disregarding reasoning or debate in order to come to scientific truth, the philosopher instead 'creates himself a god'.¹⁵⁸ As in *Fables* and the opening poems of *Philosophies* then, false religious ideology is characterised in the worst possible light. For the first time in his poetry, orthodox

¹⁵⁶ Ross, *Memoirs*, p. 17.

¹⁵⁷ Ronald Ross, 'Our Philosophers' in *Fables and Satires* (London: Harrison and Sons, 1928), ll. 15-16.

¹⁵⁸ *Ibid.*, ll. 31.

religion and spiritualism are mentioned together in ‘Our Philosophers’. The poetic voice of the public intellectual concludes with a tirade against the spiritualists’ pursuit:

One lightens philosophic tedium
 By calling Hegel thro’ a medium;
 Another, to convince the many,
 Reads tho’ts of those who haven’t any;
 Or visits ancient gallow-posts
 To set a trap for catching ghosts;
 Or in a churchyard gives his lectures
 And tries to photograph the spectres.¹⁵⁹

The myriad ways in which people conduct acts of spiritualism are listed here to emphasise the rampant nature of spiritualist methods through which to attain knowledge, highlighting their absurdity. The poetic voice claims that it is because students are not being taught to search for scientific truth, as Ross had commanded in his early poems, that they become so misguided as to convert to spiritualism.

As evidenced earlier in the chapter, Ross has already established himself in his poetical works as a man of middle-class education, flaunting his knowledge of classics. Now that his educational status has been solidified, he uses ‘Our Stage’, ‘Our Pronunciation of Greek and Latin’, and ‘English Spelling’, to raise concerns regarding the British education system. For example, in ‘Our Stage’, Ross condemns the public for not being able to interpret accurately Elizabethan plays like those of Shakespeare and Marlowe. In his *Memoirs*, Ross recounts his long-held love for these playwrights, noting that as a child his fondness for Elizabethan dramatists led to him being accused of ‘speaking Elizabethan English!’¹⁶⁰ The poetic voice argues that actors must pander to the audience in order to achieve any kind of reaction: ‘They give approval to the poet / Whenever they are told to show it’.¹⁶¹ Ross writes ‘For where we really are exacting / Is to

¹⁵⁹ Ibid., ll. 54-61.

¹⁶⁰ Ross, *Memoirs*, p. 21.

¹⁶¹ Ronald Ross, ‘Our Stage’ in *Fables and Satires* (London: Harrison and Sons, 1928), ll. 26-27.

have truth – at least in acting.’¹⁶² A lack of authenticity in the performance of the actors then is the issue with contemporaneous stage performances. Ross blames this on the public who, not educated in Shakespearean theatre, do not know how to interpret the plays: ‘It is our audience damns our stage’.¹⁶³

‘Our Pronunciation of Greek and Latin’ works towards a similar effect, as the poetic voice bemoans the notion that contemporaneous teachers do not educate ‘little wretched scholars’ on the meaning and intentions behind the works of Virgil, Horace, and Homer: works that Ross valued as a means by which to establish himself as a public authority.¹⁶⁴ Instead, ‘Achilles lectures on the article, / And Hector teaches the Greek particle’.¹⁶⁵ By making these complaints, Ross implies his superior knowledge of these authors and texts. ‘English Spelling’ gives Ross an opportunity to satirise the English spelling system, about which he could also claim expert knowledge. Ross had been interested in spelling reform since learning shorthand in India.¹⁶⁶ Gibson and Nye note that, in 1906, Ross ‘contributed three articles to the *Journal of Orthopy and Orthography*’ and, in 1911, he ‘submitted a scheme for simplified spelling to [...] the secretary of the Simplified Spelling Society’.¹⁶⁷ In the poem, the poetic voice criticises the notion that people who speak English cannot write words in the way they pronounce them: ‘Not ev’n resembling that we chat in, / But spurious Saxon, Greek and Latin’.¹⁶⁸ At once, he wants to re-educate the public about the true meaning of ancient texts, whilst also modernising English spelling. Thus, he fashions himself both as a man of refined taste and extensive education, as well as a revolutionary pioneer of scientific knowledge. Educational reform, specifically giving scientific education equal importance to classical education, was

¹⁶² Ibid., ll. 20-21.

¹⁶³ Ibid., l. 49.

¹⁶⁴ Ronald Ross, ‘Our Pronunciation of Greek and Latin’ in *Fables and Satires* (London: Harrison and Sons, 1928), l. 1.

¹⁶⁵ Ibid., l. 23-24.

¹⁶⁶ Ross, *Memoirs*, p. 53.

¹⁶⁷ Gibson and Nye, p. 209.

¹⁶⁸ Ronald Ross, ‘English Spelling’ in *Fables and Satires* (London: Harrison and Sons, 1928), ll. 11-12.

certainly one of Ross's interests, evidenced in Chapter Four of this thesis, as Ross believed that the neglect of science stemmed in part from a lack of scientific education at school level. Thus, a theme emerges across the narrative arc as Ross strives throughout his poetry to warn against degeneration at the metropole.

'England in 1912' epitomises Ross's disgust at the treatment of scientists in Britain, resonating with Ross's novel *The Revels of Orsera* (1920), explored in Chapter Two. This poem implies that degeneration is occurring at the metropole, as England's degenerate state means that they only celebrate false idols, rather than virtuous individuals who seek scientific truth. The poem details the journey of the poetic voice through a town in England, where he is shown palatial mansions with beautifully landscaped gardens. A stranger identifies the houses as belonging to '[t]he men who made this Britain great, / In Science, Wisdom, Art and State.'¹⁶⁹ However, he is contradicted by 'the local swain', who tells the poetic voice the truth: the homes belong to 'a man who makes pork-pies [...] A noble Jewish usurer [...] A politician, lawyer and quack' and various other supposedly unscrupulous workers.¹⁷⁰ Ross uses a volta in line fifty of the poem to signal a change in the tone of the poetic voice: 'And where are they who bless? Unknown'.¹⁷¹ While England celebrates corruption, those who Ross identifies as pioneering arbiters of truth throughout his collections are not visibly present in the landscape. There is a large space between the question and the word unknown, highlighting the lack of mark made on both the physical landscape and contemporaneous society by 'they who bless' or professional men and women. Ross continues:

Each toils in silence and alone;
His highest glory, to have none;
His widest fame, to be unknown;
His greatest riches, to be poor
His keenest pleasure, to endure.
[...]

¹⁶⁹ Ronald Ross, 'England in 1912' in *Fables and Satires* (London: Harrison and Sons Ltd, 1928), ll. 11-12.

¹⁷⁰ *Ibid.*, l. 39, ll. 40-45.

¹⁷¹ *Ibid.*, ll. 50.

Who stands upright in Britain falls.
He wins the prize of life who crawls.¹⁷²

This section of the poem appears almost as a call and response due to the repetition of the line structure. This call and response structure marks a juxtaposition of wealth and poverty in multiple aspects of life. This form also explicitly exhibits the lack of reward or recognition that men and women of ‘Science, Wisdom, Art, and State’ receive, reminiscent of Ross’s dejection after receiving no substantive remuneration for his malarial research (see Chapter One). The English are expected to stand upright, both implying their place at the height of evolutionary progress and their upstanding moral code. However, instead they now ‘crawl’, implying that moral degeneration leads to physical degeneration. Thus, the ‘heroic narrative’ comes to an unrewarding conclusion, as the coloniser physician who believed that he was saving his ‘homeland’ from degeneration and, as is claimed in ‘Vox Clamantis’, that ‘the voice of every flower / will bless him as he goes’, has come to the realisation that his work to safeguard the west will go unrewarded.

With the publication of the short collection *Lyra Modulata* in 1931, a year before Ross’s death, it is clear to see that many of the poems were written in India decades ago and had already been published. For example, ‘The Star and the Sun’, a poem detailing a beach sunrise, is marked as being written as long ago as 1886-7 on the Andaman Islands. However, more pertinent to the chronological study of the narrative arc of Ross’s poetry in relation to his self-fashioning is his poem ‘The River’, which Ross claims here to have written in 1927, making it the most recently written poem in the collection. In this poem, the poetic voice views a woodland river and calls it to ‘pause and hear [him], ling’ring near [him], god of the golden woodland.’¹⁷³ Here then, the poetic voice, with a clear appreciation and admiration for this beautiful scene, has the power to control nature and

¹⁷² Ibid., ll. 51-61.

¹⁷³ Ronald Ross, ‘The River’ in *Lyra Modulata* (London: Harrison and Sons, 1931), l. 6.

address it. This ability then correlates with the poetic voice in *Philosophies*, who has mastered nature as a result of gruelling research. The poetic voice traces the history of the river from when the ‘flaming floods Phoebus ariseth immortal’ to the present day when ‘we, thy lovers of old time, / Wander forth to tempt and take the tyrants that dwell in the deep / pools’.¹⁷⁴ The poetic voice explains their heroism in attempting to gain knowledge using the metaphor of battling enemies in the unknown depths of the river during the night. Once the night is over, the poetic voice witnesses the beauty of a new day dawning on the river with the ‘sudden [...] moan of [Pan’s] music [...] / And the waking Kestrel shriek[ing] to hear his clamour outdone. / Sudden and far the music floats o’er forest and fir and moorland’.¹⁷⁵ The voice, who has been lucky enough to sit ‘there alone in dewy dell or lost in the fume of thy thunder [...] / May behold them there, divine, and tell of their wisdom and beauty’.¹⁷⁶ It is clear that the poetic voice then, having battled through the night, has learnt about and come to understand nature, and was then able to use that understanding to teach others. Finally, the poetic voice realises that they ‘[m]ay behold them here for e’er I climb to the uttermost mountains, / May behold them there by thee ere I ascend to the mountains, / Ice, and eyries of the Stars, and peaks of eternal death’.¹⁷⁷ The poetic voice then is coming to the end of his life, having succeeded in understanding, teaching, and promoting nature, and will now be able to view nature’s beauty from the ‘peaks of eternal death’.

Reviews of the Physician-Poet

The reception and understanding of Ross’s hybrid branding as physician-poet was mixed. As mentioned earlier, he gained the friendship of prominent physician Weir Mitchell, who,

¹⁷⁴ *Ibid.*, ll. 13-15.

¹⁷⁵ *Ibid.*, ll. 33-36.

¹⁷⁶ *Ibid.*, ll. 37-39.

¹⁷⁷ *Ibid.*, ll. 41-43.

on the private publication of the poem ‘In Exile’ wrote one of the earliest reviews of Ross’s poetry. Mitchell identified Ross’s poetry in the same way as he had identified his own, as a relief from medical work:

The weary physician, the exhausted laboratory worker has had a variety of ways of resting or relieving his mind. [...] An apt illustration is the fact that Ronald Ross, when half blind or exhausted with work, turned to verse and sought in a difficult field for the relief that change of mental occupation affords.¹⁷⁸

Mitchell acknowledges Ross’s dual identity as both physician and scientific researcher. Further, he claims that using poetry as a tool for relaxation should be praised above ‘physical exercise’ or ‘some fad of collecting’, but nevertheless it can be added to those pursuits as a suitable hobby for a resting physician.¹⁷⁹ Mitchell concludes the article by proclaiming that ‘it is fitting that in this, our great journal, there should be recognition of [one] [...] to whom must be given the double laurel of science and poetry’.¹⁸⁰ At least at the conclusion Mitchell then does imply that, in the case of Ross’s scientific and poetic output, science and poetry should be given equal weighting. Ross was obviously pleased with this review of his privately published poem, as in the reprint of *In Exile* in 1931 he included a snippet from Mitchell’s review.

Just a week before Ross gave his Royal Institution lecture on ‘Science and Poetry’, mentioned at the opening of this Chapter, Scottish biologist and Chair of Natural History at the University of St Andrews, D’Arcy W. Thompson (1860-1948), wrote a short history of the relationship between poetry and medicine, culminating with references to Ross’s *Philosophies and Psychologies*. While not wholly complimentary of Ross’s poetry, Thompson does admit that ‘there is a certain excellence which, though it falls far short of supreme perfection, is still a very fine and splendid thing, and to such excellence I think

¹⁷⁸ S. Weir Mitchell, ‘Ronald Ross As Poet’, *Journal of the American Medical Association*, 49 (10), 852-853, p. 852.

¹⁷⁹ *Ibid.*, p. 852.

¹⁸⁰ *Ibid.*, p. 853.

[...] Ross has certainly attained.’¹⁸¹ Thompson seems somewhat shocked at Ross’s depictions of the East in *Philosophies*, claiming that ‘looking with the physician’s charitable eyes, he broods over the decadence, the misery, the widespread sickness of its people. It is all a gloomy picture [...] its blackness [is] somewhat overdrawn’.¹⁸² However, despite this ‘gloomy picture’, Thompson decided to make use of Ross’s poetry in a lecture given to his new class of medical students (‘some eighty young men and women’) at St Andrews. He read some of Ross’s poetry as ‘an example of the spirit of the scientific physician, of aims conceived, of dreams come true’.¹⁸³ According to Thompson then, Ross’s poetry demonstrates the ideal nature of the medico-scientific researcher. He claims that, after the reading, his new students ‘went quietly away, and [he] could see by their faces that they had heard the words of the poet and the physician as though he were speaking straight to them’.¹⁸⁴ Thus, Ross’s poetry was clearly appreciated enough by contemporaneous scientists, and a burgeoning new generation of medics, that it was used as a tool to educate and inspire.

Again, Ross publicly endorsed Thompson’s review of his poetic work, writing in *Nature* the following week: ‘I should like to thank Prof. Thompson for his kindly references [...]. Oddly enough the day after it appeared in *Nature* I lectured at the Royal Institution on “Science and Poetry,” and upheld the theses that a higher view of both will show how frequently and how closely they are connected’.¹⁸⁵ However, as with comments made about Ross as romancer, claiming that he was pursuing literary interests after gaining fame in science, Ross clamours to remind Thompson and all readers of *Nature* that his ‘own interest in medical matters is quite secondary, and a matter of duty rather than predilection.’¹⁸⁶ This clearly resonates with Ross’s feelings on the reception of his

¹⁸¹ D’Arcy W. Thompson, ‘Poetry and Medicine’, *Nature*, 105 (3 June 1920), 414-416 (p. 414).

¹⁸² *Ibid.*, p. 416.

¹⁸³ *Ibid.*, p. 416.

¹⁸⁴ *Ibid.*, p. 416.

¹⁸⁵ Ronald Ross, ‘Fellow-Workers’, *Nature*, 105 (10 June 1920), 455 (p. 455).

¹⁸⁶ *Ibid.*, p. 455.

republication of *The Child of Ocean*, explored in Chapter Two of this thesis, as Ross complained of critics mis-identifying the republication as an attempt to use medico-scientific notoriety to claim fame in the literary marketplace. Thus, it is evident that Ross continually felt the need to restate his desire for a literary self-fashioning as a writer first and a medico-scientific researcher second.

In 1920, Rodolphe Louis Mégroz, who would go on to write the first biography of Ross, wrote a short article for *Bookman* on ‘Colonel Sir Ronald Ross as Poet and Man of Letters’. This review offers the opportunity to examine what those outside of the scientific or medical community thought of Ross’s poetical works. Mégroz’s comments align with Mitchell’s reception of Ross’s self-fashioning: he explains that poetry was, for Ross, an outlet during times of mental exhaustion. Mégroz claims that he ‘shall never forget the excitement with which [he] read the “Philosophies”, poems which were the overflow and relief of the scientist’s mind’.¹⁸⁷ Thus, Mégroz hints at Ross’s poetry as a unique opportunity to understand the toil which leads to scientific discoveries, as Ross’s *Memoirs*, explored in Chapter One, would seek to achieve three years later. Mégroz also identifies with regret the fact that Ross’s literary output is often eclipsed by his medico-scientific fame: ‘the fame due to him as a poet is unduly obscured by his scientific achievements.’¹⁸⁸

A positive review regarding the republication of *In Exile* appears in *Nature* in July 1932. As with Mégroz’s review, this review also hints at regret that Ross’s poetry was not more well-known. The reviewer agrees with Ross’s complaint in the preface that the collection has been sorely neglected, particularly because of the ‘unique interest’ of this collection for its ‘deeply moving utterances wrung from the soul of a man in grips with one of the most terrible scourges of the human race.’¹⁸⁹ The reviewer then explains that Ross’s

¹⁸⁷ R. L. Mégroz, ‘Colonel Sir Ronald Ross as Poet and Man of Letters’, *Bookman*, 69 (412) (January 1926), 200-202 (p. 200).

¹⁸⁸ *Ibid.*, p. 202.

¹⁸⁹ F. S. M., ‘(1) The Captive Shrew: and other Poems of a Biologist (2) *Lyra Modulata* (3) *In Exile*’, *Nature*, 130 (9 July 1932), 41-42 (p. 41).

poetry will surely have lasting ‘intense significance’ for their unusual substance: they ‘will undoubtedly retain their value both as poetry and as the record of one of the most decisive applications of science to the alleviation of human suffering’.¹⁹⁰ Twelve years on from Thompson’s initial review in *Nature* then, it is clear to see that scientists still value Ross’s poetic corpus as an inspiring heroic narrative of scientific success.

In the second of two obituaries for Ross in *Science Progress*, entitled ‘Ronald Ross as Poet’, poet and English professor Lascelles Abercrombie (1881-1938) explains Ross’s dual persona as poet and scientist.¹⁹¹ He declares Ross’s hybrid self-fashioning was as a result of unbridled genius: ‘Ronald Ross was not a mind to be classified under one of our convenient departmental headings. Science gave him a profoundly aesthetic satisfaction, and art for him was but a transvaluation of scientific truth.’¹⁹² Just as Ross had in his lifetime, Abercrombie disparages those who would brand Ross a scientist attempting poetry, instead encouraging reviewers to identify him as a poet writing poetry: ‘Ross as a poet is not to be judged as a scientist who had a cultured taste for versifying; he is to be judged as a poet writing poetry.’¹⁹³ Thus, it is clear to see *Science Progress* attempting to retain and solidify Ross’s self-fashioning as a writer first and a medico-scientific researcher second.

Conclusion

Poetry was the format through which the detail of Ross’s arduous journey towards medico-scientific discovery for the glory of the British Empire is clearest: there is an obvious narrative arc to his corpus. The analysis of autobiographical poems throughout Ross’s

¹⁹⁰ Ibid., p. 42.

¹⁹¹ Lascelles Abercrombie, ‘Ronald Ross as a Poet’, *Science Progress*, 27 (10) (January 1933), 393-395 (p. 393). For the first obituary of Ross in *Science Progress* see Malcolm Watson, ‘Ronald Ross 1857-1932’, *Science Progress*, 27 (107), (January 1933), pp. 377-392.

¹⁹² Abercrombie, p. 393.

¹⁹³ Ibid., pp. 393-394.

poetic corpus shows how Ross used this literary format as a tool for self-fashioning throughout his medico-scientific career. The archaic style and content of his poetical works, particularly his early works, allowed him to craft his persona as physician-poet (evident in his use of poetry to speculate on the downfall of ancient Greece due to malaria), gave him an air of authority, and enabled him to gain access to prominent polymaths both past and present. Ross then utilised his poetic abilities to denigrate the Anglican Church, enabling him to offer up apostles of science as a preferable alternative as arbiters of truth for the nation. Once science was firmly established as the only method through which to attain truth, Ross published poetry aimed at stirring up a sense of fear of degeneration, decay, and reverse colonisation in the tropics: a problem which could only be solved through the expert gaze of the heroic coloniser physician poetic voice. In reference to *Memoirs* and *In Exile*, Howell confirms Ross's ultimate aim of self-fashioning his heroic persona: 'never one to shy away from claiming credit, Ross [...] shows an even further consolidation of the heroic narrative and creating of a coherent arc'.¹⁹⁴ With the publication of *Philosophies*, Ross publicly confirmed his hope for and realisation of 'claiming credit' for arduous medico-scientific labours. On returning to England in 1899, having solidified his role as (neglected) imperial hero, his poetry changed. Giving himself the authority to comment not only on science, but on education, war, entertainment, or popular culture in any form, evidences Ross's later simultaneous self-fashioning as English public intellectual around the time of the First World War.

¹⁹⁴ Howell, *Malaria and Victorian Fictions of Empire*, p. 148.

CHAPTER FOUR

A SCIENTIST'S DUTY: *SCIENCE PROGRESS*

Introduction

The Neglect-of-Science debate of 1916 proved a key moment for Ross's self-fashioning. Zuoyue Wang explains that, during the First World War in Britain, scientists strove to 'promote science in the country's educational, industrial and governmental systems.'¹ Wang accepts that 'complaints about the lack of attention and support [for science] were [...] not new', as scientists struggled to establish their profession throughout the nineteenth century.² Indeed, the term 'scientist', first suggested by polymath William Whewell (1794-1866) in 1834, was still a controversial term as late as 1895.³ However, the First World War signalled a unique opportunity for scientists, as it 'provided a sense of urgency [...] and a medium for displaying the utility of science'.⁴ Frank M. Turner explains that scientists were 'formulating a *polemic for science* as a social and intellectual institution within British society and were devising a *public ideology* for workers in science.'⁵ This campaign during 1916 was termed the 'Neglect-of-Science' debate: a debate in 'which politicians, scientists, and other social commentators discussed whether Britain's ill fortunes in the war were a result of neglecting scientific research.'⁶

¹ Zuoyue Wang, 'The First World War, Academic Science, and the "Two Cultures": Educational Reforms at the University of Cambridge', *Minerva*, 33 (2) (June 1995), 107-127 (p. 109).

² *Ibid.*, p. 109

³ Sydney Ross, 'Scientist: The story of a word', *Annals of Science*, 18 (2) (1962), 65-85 (p. 71).

⁴ Zuoyue Wang, p. 109.

⁵ Frank M. Turner, 'Public Science in Britain, 1880-1919', *Isis*, 71 (4) (1980), 589-608 (p. 608). Emphasis mine.

⁶ Melinda Baldwin, *Making "Nature": The History of a Scientific Journal* (Chicago: University of Chicago Press, 2015), p. 95.

As well as being President of the British Science Guild during war time, Ross was editor of and frequent contributor to the popular science magazine *Science Progress* from 1913 to 1932, spearheading content around the time of the debate.⁷ Anna K. Mayer identifies *Science Progress*, along with *Nature*, as one of the ‘prominent forums for technocratic hopes in Edwardian and wartime Britain’.⁸ The importance of examining *Science Progress*’s contributions to the Neglect-of-Science debate then are as necessary as an examination of *Nature* during that time. However, while there is a book-length study of *Nature*, including references to the Neglect-of-Science debate, and multiple historians of science have discussed the debate through the lens of *Nature*, only passing reference has been made to *Science Progress*.⁹ Turner’s seminal article, ‘Public Science in Britain, 1880-1919’, which asks how individual polemics for science were connected to the ‘political and social goals’ of the scientist, devotes half a page to *Science Progress*. Turner provides just one quotation from the magazine, describing Ross’s terms during the debate as ‘perhaps the most bitter and exaggerated’ of any contemporaneous scientific writings.¹⁰ Turner concludes his brief discussion of the magazine by explaining that his chosen quotation from *Science Progress*

came in the wake of a public campaign led by *Science Progress* during the early months of 1914 to raise salaries and the general public appreciation of scientists. Ross and others not only wanted science to play a part in the war but also clearly

⁷ Andrew Hull, ‘War of Words: The Public Science of the British Scientific Community and the Origins of the Department of Scientific and Industrial Research, 1914-16’, *The British Journal for the History of Science*, 32 (4) (December 1999), 461-481 (p. 466).

⁸ Anna K. Mayer, ‘Reluctant Technocrats: Science Promotion in the Neglect-of-Science Debate of 1916-1918’, *History of Science*, 43 (2) (2005), 139-159 (p. 142-143).

⁹ On the Neglect-of-Science debate and *Nature*, see Melinda Baldwin, *Making “Nature”*: The History of a Scientific Journal (Chicago: University of Chicago Press, 2015); Melissa Baldwin, ‘The Successors to the X Club? Late Victorian Naturalists and Nature, 1869-1900’, *Victorian Scientific Naturalism: Community, Identity, Continuity* (Chicago: Chicago University Press, 2014), pp. 288-308; Anna-Katherina Mayer, ‘Moralizing science: the uses of science’s past on national education in the 1920s’, *British Journal for the History of Science*, (30) (1997) pp. 51-70; Anna K. Mayer, ‘Reluctant Technocrats: Science Promotion in the Neglect-of-Science Debate of 1916-1918’, *History of Science* (14) (2005) pp. 139-159; Michael H. Whitworth, *Einstein’s Wake: Relativity, Metaphor, and Modernist Literature* (Oxford: Oxford University Press, 2001). On the Neglect-of-Science debate and *Science Progress*, see Katy Price, *Loving Faster Than Light: Romance and Readers in Einstein’s Universe* (Chicago: University of Chicago Press, 2012); Frank M. Turner, ‘Public Science in Britain 188-1919’, *Isis*, 71 (4) (1980), pp. 589-608.

¹⁰ Turner, ‘Public Science’, p. 604.

meant that participation to lead to new political influence for science in the period of peace that would follow the conflict.¹¹

Turner seemingly identifies *Science Progress* as one of the most prominent publications engaged in the Neglect-of-Science debate. His comment suggests that a detailed examination of the magazine, encompassing the war and the debate's climax, will yield insight into the way the campaign was framed and pursued. In his article on the origins of the Department of Scientific and Industrial Research, Andrew Hull briefly describes Ross as a 'redoubtable editor' and the rhetoric found in *Science Progress* as 'technocratic [and] anti-democratic'.¹² These comments raise questions that literary scholars have not yet addressed. For example, what rhetoric was *Science Progress* using to develop and *lead* this 'public campaign' to aid scientists' professionalisation? How did Ross use the magazine as a vehicle to promote scientists' 'part in the war' and subsequent call for 'new political influence'? What were Ross's 'political and social goals' in relation to the 'polemic for science' he cultivated in this prominent magazine? This chapter provides the first sustained examination of the polemic for science created by Ross in *Science Progress*, focusing on Ross's 'political and social goals' in relation to that public ideology.

This chapter close reads issues of *Science Progress* from 1913 to 1920, interrogating Ross's part in developing key tropes within the magazine's polemic for science and considering the vital importance of *Science Progress*'s changing structure on the effectiveness of its rhetoric. Of particular importance to this interrogation are the *Science Progress* issues from 1913 to 1917: the period during which Ross held sole editorial control of the magazine. Gibson and Nye explain that, on taking up his editorial role, 'Ross found a sounding board for his opinions which he used to the full'.¹³ As this Chapter will argue, Ross appears quite heavy-handed as editor, using the magazine as a

¹¹ Ibid., p. 604.

¹² Hull, p. 466.

¹³ Edwin Nye and Mary Gibson, *Ronald Ross: Malarialogist and Polymath: A Biography* (London: Springer, 1997) p. 210.

space in which to amplify his displeasure for contemporaneous treatment of scientists. This specific date range will allow for an exploration of Ross's self-fashioning within the context of *Science Progress's* polemic for science around the debate. The chapter also argues that *Science Progress* offers a new public persona for scientists. The magazine refashions scientists to highlight their utility in wartime, dismissing the outmoded, individualistic 'knight of science' archetype in favour of a collective of soldier-scientists striving for a post-war technocracy. Pivoting to these archetypes in wartime, *Science Progress* argues that scientists must be given social, political and professional advancement, so that they can reform, protect, and educate the inept British public.

The Times Memorandum

Melinda Baldwin explains that the Neglect-of-Science debate occurred around the time of the First World War, from 1916 to 1918, a period during 'which politicians, scientists, and other social commentators discussed whether Britain's ill fortunes in the war were a result of neglecting scientific research.'¹⁴ The debate was signalled by the publication of 'Neglect of Science. A Cause of Failures in War. New Committee Formed.' in *The Times* on 2 February 1916. The 'Reorganisation Committee', a group of thirty eminent scientists including Ross, signed the memorandum which required 'immediate attention and drastic action' for the good of the 'public interest'.¹⁵ These men figured themselves as exasperated professionals, noting twice in the short article that for '50 years' they had been attempting to make the public aware of a 'grave defect [...] a cause of danger and weakness': the scientific illiteracy of the public, the Civil Service, and the Army.¹⁶ As an example of 'the ignorance which [they] deplore', the scientists offered the fact that lard was shipped to

¹⁴ Baldwin, *Making "Nature"*, p. 95.

¹⁵ *The Times* Digital Archive, 'Neglect of science: A cause of failures in war' in *The Times*, 2 February 1916, p. 10.

¹⁶ *Ibid.*, p. 10.

Germany by the British Government during wartime, despite the fact that lard is used in the production of explosives.¹⁷ A member of government suggested that, because the discovery of glycerine (from lard) was relatively new, the government should be excused. The scientists, using hyperbole to emphasise their disgust at witnessing total scientific illiteracy, claimed that this knowledge was ‘ancient history’.¹⁸ To stop further fatal mistakes, a solution was offered by the Reorganising Committee. This solution was that government should make scientific education essential to ensure ‘an intelligent respect for [science], and an understanding of what it can do, how to make use of it, and to whom to apply when special knowledge is required.’¹⁹ The Reorganising Committee made their plea appear simple to implement, claiming they did not want the entire Civil Service to become experts: they only wanted a group of civil servants to have basic scientific knowledge so that future errors could be avoided.²⁰

To achieve the preferred solution, according to the committee, schools and universities needed to train students in scientific education. The committee argued that, as of 1916, ‘but four colleges [at Cambridge] are presided over by men of scientific training; at Oxford not one’, and out of thirty-five public schools, not one headmaster was a man of science.²¹ The memorandum suggested that

if a Bill were passed directing the Civil Service Commissioners and the Army Examination Board to give a preponderating [...] share of marks in the competitive examination to natural science subjects [...] the object we have in view would be obtained.²²

They imagined the trickle-down effect of this change: as schools were encouraged to teach science for pupils to gain appointments, the public would begin to appreciate and respect

¹⁷ Ibid., p. 10.

¹⁸ Ibid., p. 10.

¹⁹ Ibid., p. 10.

²⁰ Ibid., p. 10.

²¹ Ibid., p. 10.

²² Ibid., p. 10.

scientific work. The committee even speculated so far as to say that ‘public opinion would compel the inclusion of great scientific discoverers and inventors as a matter of course in the Privy Council, and their occupation in the service of the State.’²³ The implication here is that a scientifically literate public would eventually enable a technocracy, hinting at the political goals of these elite scientists. The committee closed with a humble self-denying statement: ‘Our desire is to draw attention to this matter *not* in the interests of existing professional men of science, but as a reform which is vital to the continued existence of this country as a Great Power.’²⁴ The pro-Imperialist rhetoric, hinted in the reference to a waning ‘Great Power’, constitutes one facet of the polemic for science during the Neglect-of-Science debate, as evidenced by Peter J. Bowler’s study of the popularization of science at the turn of the twentieth century.²⁵ The use of this ‘ideology of imperialism’ allowed scientists to link the development and sustainability of the British Empire to the flourishing of science as a profession.²⁶ *The Times* memorandum then was a reasonably dry, measured article, making clear scientists’ hopes for the future. However, a more forceful, impassioned view on the neglect of science had been evident in *Science Progress* long before February 1916.

Impoverished Figures

In July 1913, a year before the outbreak of the First World War, the first issue of *Science Progress* was published with Ross as editor. Ross’s name appears on the cover page as Sir Ronald Ross, K.C.B., F.R.S., N.L., D.Sc., LL.D., M.D., F.R.C.S. From the start, this issue establishes Ross as ‘spokesperson for science’: an individual seeking ‘to improve the position of science so that its workers might enjoy more economic prosperity and security

²³ Ibid., p. 10.

²⁴ Ibid., p. 10.

²⁵ Peter J. Bowler, p. 253.

²⁶ Ibid., p. 19.

and social prestige within the existing society'.²⁷ Where before the magazine opened with a list of names making up the 'Advisory Committee', Ross placed a simple notice on how to publish work in the magazine.²⁸ Whether or not he dismissed the twelve well-educated men of the Advisory Committee (ten were Fellows of the Royal Society; three were knighted for service to science) is unclear, but what is obvious is that Ross wanted *Science Progress* to appear as though he solely edited it and was responsible for its content.²⁹ With the seemingly inane change of the 'Notice', Ross indicates his dominance as an editorial voice for *Science Progress*.

At the conclusion of the October 1913 issue, there is an additional notice that runs for four issues. 'The Emoluments of Scientific Workers' signals the purpose for which Ross will use the broad appeal of the popular science magazine format: he wishes to establish the destitute state of his fellow scientists. The notice calls for 'scientific workers and teachers in this country and the Colonies' to respond to twelve questions: their name, date of birth, qualifications, titles and honorary degrees, past appointments, details of their current appointment, by whom they are employed, conditions and length of employment, pension, health insurance coverage, family pensions, and final remarks.³⁰ Submissions by scientific workers would eventually 'form a basis for [...] statistical investigation of' the mistreatment of the scientist.³¹ Bowler claims that it was 'impoverished figures' of the scientific community whom Ross wished to highlight in 'The Emoluments of Scientific Workers'.³² From the beginning of his editorship then, Ross aimed to use his position as editor of the popular magazine to create a polemic for science, or narrative about scientists, and their current position and hoped-for position in social, political, and professional life.

²⁷ Frank M. Turner, *Contesting Cultural Authority: Essays in Victorian Intellectual Life* (Cambridge: Cambridge University Press, 1993) p. 227.

²⁸ H. E. Armstrong and J. Bretland Farmer, 'Advisory Committee', *Science Progress*, 7 (28) (April 1913) ii (p. ii). Ronald Ross, 'Notice', *Science Progress*, 8 (29) (July 1913), ii (p. ii).

²⁹ Armstrong and Farmer, 'Advisory Committee', p. ii.

³⁰ Anonymous, 'The Emoluments of Scientific Workers', *Science Progress*, 9 (30) (October 1913), 176. (p. 176).

³¹ Anonymous, 'Sweating the Scientist', *Science Progress*, 8 (32) (April 1914), 599-607 (p. 600).

³² Bowler, p. 253.

Each of the four notices was accompanied by an article advocating for the importance of science, scientific education, or the scientific worker.

In the January 1914 issue, just six months before the outbreak of war, Ross affords the prime position of opening article to ‘The Genius of Science’. The article appears anonymously, but its positioning as the opening gambit of the issue implicates it as an editor’s preface to the content within the issue. The article claims scientists are more evolutionarily developed than the general populace: that ‘a biological law may be supposed here – that genius is like the flowers on the tree, and that the mass of mankind are but the leaves’.³³ This is an unmistakable reference to Darwin’s ‘Tree of Life’ metaphor in *On the Origin of Species* (1859), where Darwin writes:

The affinities of all the beings of the same class have sometimes been represented by a great tree [...] As buds give rise by growth to fresh buds, and these, if vigorous, branch out and overtop on all sides many a feebler branch, so by generation I believe it has been with the great Tree of Life, which fills with its dead and broken branches the crust of the earth, and covers the surface with its ever branching and beautiful ramifications.³⁴

Evident in this rhetoric too is a passing remark to the ‘mass of mankind’, a term which would later be used extensively in the magazine to provoke fear and resentment in readers: ‘The mass of men would attach no importance whatever to any of the ideas just mentioned, even if they had thought of them.’³⁵ The term ‘mass’ brings about connotations of a corrupted body: a mass that must be removed for the health of the patient. The ‘mass of mankind’ image seems key to Ross’s polemic for science, as it appears regularly in *Science Progress* after its first appearance here. Indeed, the phrase is referred to in a review of Ross’s speech ‘Science and the Public’, given six years before his editorship began. In a review of Ross’s 1906 speech in *Nature*, the reviewer explains that Ross equates the public’s ‘willingness to ignore science’ with their ‘willingness to [...] subsidise quack

³³ Anonymous, ‘The Genius of Science’, *Science Progress*, 8 (31) (January 1914), 391-397 (p. 395).

³⁴ Charles Darwin, *On the Origin of Species* (London: John Murray, 1861), p. 146.

³⁵ Anonymous, ‘The Genius of Science’, p. 393.

medicine, to ignore beneficent discoveries [...], to hamper scientific research [...], and generally to proclaim its adherence to the policy of “muddling through”.³⁶ Without scientific knowledge, Ross contends that the public mistakenly patronise charlatans, leading to societal stagnation. The reviewer explains that Ross provides an example of ‘how slightly as yet the mass of mankind has been influenced’ by science.³⁷ The review ends on a warning note: ‘the world will be dominated eventually [...] by the disciplined and scientific peoples, and those nations which reject science will be set aside.’³⁸ Now that Ross, eight years later, has editorial control of his own magazine, he begins pushing this image of the ‘mass of mankind’ to the fore as a warning that scientific education is necessary for the advancement of Britain.

The article finishes by implicating science as religion, a metaphor more fully explored in Ross’s other writings, particularly his poetry, as evident in Chapter Three. The article lists well-known scientists as martyrs for their field and claims that

[t]he greatest man of science, who obtained from his study of human morality a divine medicine for many of the world’s evils, suffered for his work in a manner which we hear of in every church to-day.³⁹

The article relates the suffering and death of Christ to the plight of the scientific worker, claiming that, while the public hear this story regularly, they are ignorant of its occurrence in contemporaneous society. With the recurring notice on ‘The Emoluments of Scientific Workers’ alongside articles such as this one Ross, three years prior to *The Times* memorandum, calls to fellow scientists to be concerned about their mistreatment and to recognise their superiority to the unthinking sinful ‘mass’, so that there can be a future where they no longer need to be martyrs.

³⁶ Anonymous, ‘University and Educational Intelligence’, *Nature*, 74 (1905) (May 1906), 20-22. (p. 22).

³⁷ *Ibid.*, p. 22.

³⁸ *Ibid.*, p. 22.

³⁹ Anonymous, ‘The Genius of Science’, p. 396.

‘Sweating the Scientist’, another leading article, confirms the hypothesis *Science Progress* put forward regarding ‘impoverished’ scientists. With a despondent tone, the article reviews the data from ‘The Emoluments of Scientific Workers’ surveys. The article highlights the story of a Canadian scientist who had difficulty renting a home because he ‘cannot live in a back street like a labourer’, as that would be déclassé, but an ‘unfurnished house in a good locality [...] [would] be about a quarter of his income’.⁴⁰ Having chosen the well-located home, a scientist’s rightful place as a middle-class professional, he now cannot ‘buy books, subscribe to scientific journals or join all the learned societies [he] ought, or to travel to see other universities’.⁴¹ Supposedly *Science Progress* has been inundated with similar complaints. As in ‘The Genius of Science’, religious groups are compared with scientists, but in this instance, the article compares the wages of scientific workers with those of the clergy:

The highest appointments open in science certainly seem to be paid much less than the highest appointments in the Anglican Church – though the latter figures cannot be very easily ascertained; and, at least, no scientific men have a seat in the House of Lords by virtue of their office or work.⁴²

The article claims that scientists’ place in society is at least equal to the clerical profession and, if clergy occupy a political office, scientists should also hold political authority. The article asserts that ‘the priest, the clinician, and the lawyer do good service to the few people surrounding them’, ‘the soldier, sailor, and politician do good service for their country’, but the scientist or ‘discoverer’ ‘confers benefits upon the whole world [...] for all times.’⁴³ To be a scientist then is to occupy the highest form of employment, since they are capable of unequalled influence. This brings the article to Britain’s ‘crowning defect’: that it does not ‘pay for any benefits however great, which it receives from individuals’.⁴⁴

⁴⁰ Anonymous, ‘Sweating the Scientist’, p. 600.

⁴¹ *Ibid.*, p. 600.

⁴² *Ibid.*, pp. 600-601.

⁴³ *Ibid.*, p. 602.

⁴⁴ *Ibid.*, p. 606.

Indeed, not only is there disinterest in scientific workers, but also disrespect and perhaps bullying. The article claims ‘politics, game-playing, and picture-shows are the things which amuse [society]. The great worker is a mere bookworm, or a plodder, or a crank.’⁴⁵ The scientist then is characterised as inferior, without hope of the social standing warranted by their expertise.

The closing paragraph of ‘Sweating the Scientist’ includes a rhetorical question, encouraging *Science Progress*’s readership to feel outraged:

It is the duty of every nation to participate in the discovery of the laws of nature, to ascertain the cause of disease, to enhance the powers of man, and to widen the range of his vision. What does Britain do to fulfil this duty?⁴⁶

The article submits that Britain falls short on every duty listed. This rhetorical question does not linger with *Science Progress*’s readership, instead the article undermines Britain by claiming the country acts as a mere ‘tradesman’, gaining wealth from ‘inferior arts’ and spending that wealth on inferior activities.⁴⁷ *Science Progress* suggests that the character of the corrupted tradesperson, a symbol of Britain, is an individual who does not think or create, but only buys and sells creations made by mistreated scientists and innovators. While this is the first use of the corrupted tradesperson metaphor, as with the ‘mass of mankind’, *Science Progress* would later increase its use, escalating alarm in its polemic for science as a call to action for its professional readership.

The final opening article of this nature, published three months after the commencement of the war in October 1914, is ‘Science and the State: A Programme’. The article claims that ‘much public attention’ has been received regarding *Science Progress*’s notice on the ‘impoverished’ scientist, sighting *The Morning Post*’s and *Nature*’s

⁴⁵ Ibid., p. 607.

⁴⁶ Ibid., p. 607.

⁴⁷ Ibid., p. 607.

engagement with the cause.⁴⁸ Presumably, the article mentions these well-known publications to enhance the authority of *Science Progress*. By noting the attention given by other outlets, *Science Progress* has proven successful in gaining a wide readership with its initial campaign for the emoluments of scientists, evidencing the magazine's distinct part in highlighting 'the lack of attention and support' provided to scientists before the war. The opening paragraph of 'Science and the State: A Programme' reads:

It is a popular complaint against men of science that they never seem to know exactly what they want; and we therefore now propose to define exactly some of the steps which may be suggested for the betterment of science.⁴⁹

It is surprising here that *Science Progress* attributes unrest in the scientific community to the public believing that they are indecisive or unsure of their demands, since this point has not been referenced before in the magazine. It seems likely then that this point sets up a strawman argument, so that they can present a detailed and supposedly finite list of demands to dispel debate. The fact that *Science Progress* feels able to propose 'steps [...] for the betterment of science', implies the authority of the magazine as a political vehicle for science's professionalisation. The steps proposed include: 'improved payment', 'adjustment of [...] minimum salaries', 'adequate pensions', 'security of tenure', 'arrangements for stimulating research', 'careful regulation of selection for appointments', 'abolition of the [...] method by which the State [...] obtains expert advice', 'payment of compensation by the State' for unremunerative discoveries, 'payment of special rewards' for unremunerative discoveries, and a 'higher place in science in national education'.⁵⁰ Having made these demands to round off the first year of Ross's editorship, *Science Progress* has successfully established scientists as a group of 'impoverished figures', desperate to improve themselves and their society, and established *Science Progress* as the

⁴⁸ Anonymous, 'Science and the State: A Programme', *Science Progress*, 9 (34) (October 1914), 197-208 (p. 197).

⁴⁹ *Ibid.*, p. 197.

⁵⁰ *Ibid.*, pp. 197-198.

vehicle through which changes can be made. Since these articles all appear anonymously, there is a sense in which the magazine appears as a univocal campaigning voice. This voice is only heightened during the First World War, as the pages of *Science Progress* become more vibrant, developing nascent rhetorical devices like the ‘mass of mankind’ and the corrupted tradesperson, developing its polemic for science into ‘perhaps the most bitter and exaggerated’ contemporaneous writings of the scientific community.⁵¹

Advancing the War

For the first year of Ross’s tenure as editor then, there were hints of a constellation of tropes used to emphasise the struggle for the advancement of science, such as the ‘mass of mankind’, the corrupted tradesperson, and, to a lesser extent, science as religion. However, after the October 1914 issue of *Science Progress* (two years before *The Times* memorandum and mere months into the First World War) the format of the magazine changes and the content becomes more colourful. In terms of structure, rather than opening articles proclaiming the need for professional advancement, articles of this nature are moved to a new section: ‘Notes’. Ross introduced this additional section in July 1913, entitled ‘Reviews, Books Received, and Notes’, which, by October 1913, had grown to thirteen pages. In January 1914, the section was split into three: ‘Reviews and Books Received’, which was six pages, ‘Correspondence’, which was one page, and ‘Notes’, which was then nine pages. In the July 1914 issue, ‘Notes’ is moved in front of ‘Reviews’ to a more central position, indicating the section’s improving status. Aside from the main body of *Science Progress*, ‘Notes’, where issues of advancement can be addressed, is by 1914, the largest section of the magazine, indicating the importance of the discussion around the neglect of science.

⁵¹ Turner, ‘Public Science’, p. 603.

Ross signals the intensification of his polemic for science in *Science Progress* in a signed article for *Nature* in December 1914. In the article, Ross describes the deployment of ‘The Emoluments for Scientific Workers’ notice and the accompanying articles as part of general ‘fruitful discussion [...] on the subject of the encouragement of science’.⁵² He also explains to readers that the ‘war now raging’ is capable of fundamentally changing Britain’s perception of scientists:

The war [...] will at least demonstrate one thing to humanity - that in war, at least, the scientific attitude, the careful investigation of details, the preliminary preparation, and the well thought-out procedure bring success, where the absence of these leads only to disaster. So also in everything.⁵³

With this spiteful statement Ross asserts that, while the public might not have understood the purpose of science before, the utility of scientists will be revealed in modern warfare. Confirming Wang’s comments on links between scientific advancement and the First World War, Ross recognises the war as a unique opportunity for scientists to further social, political, and professional advancement. Ross claims that: ‘We are not strong enough in making our demands heard; and, in my opinion, this is not a virtue, but a neglect of duty’.⁵⁴ By not intensifying the argument for the advancement of science at this stage, Ross explains that scientists would be complicit in the ‘neglect’ of their profession. This statement in *Nature* correlates with Ross’s change of format and intensification of rhetoric in *Science Progress*. From October 1914, *Science Progress* expands ‘Notes’, developing the univocal campaigning voice by producing antagonistic, alarmist, and (mostly) anonymous articles advocating for the rights of the scientist, the improvement of scientific education, and for a post-war technocracy.⁵⁵

⁵² Ronald Ross, ‘Organisation of Science’, *Nature*, 94 (2353), (3 December 1914), 366-367. (p. 366).

⁵³ *Ibid.*, p. 367.

⁵⁴ *Ibid.*, p. 367.

⁵⁵ From July 1913 until July 1917 there was a total of eighty-three notes. Of those notes, two were clearly attributed to Ross, twelve were attributed to other writers, and seventy-nine were anonymous. Gibson and Nye confirm that at times Ross used the pseudonym ‘O. A. Craggs’ for articles in *Science Progress*. In July 1913, in Ross’s first issue, O. A. Craggs writes an article in favour of women’s suffrage. Later the same article appears in *Nation*, attributed to Ross. O. A. Craggs appears again in October 1913, attached to an

The Mass of Mankind

Prior to the October 1914 issue, tropes around the theme of mental, physical, or moral corruption in *Science Progress* highlighted the supposed intellectual, spiritual and evolutionary differences between the public and scientists: they worked to expose societal issues and emphasised scientists' opposition to the ignorant public. While these tropes may have been introduced earlier in the magazine, with references to the 'mass of mankind' in the January 1913 issue or the corrupted tradesperson in the April 1914 issue, from a close reading of subsequent issues it is clear that, from October 1914 onwards, these references are extended, amplified, and exaggerated. For example, the October 1914 note 'Undergraduates and the Betterment of Science', uses an extended metaphor, commenting that the 'intellectual stagnation' of Britain is 'induced by old mental adhesions and ossifications'.⁵⁶ It suggests that Britain suffers from 'senile paralysis', which can only be cured through the development of 'new cells of the community': the article identifies these new cells as students of science, in particular those discussing the betterment of their field in the periodical *The Undergraduate*.⁵⁷ This article hints at a growing concern amongst the scientific community: that traditional education has created 'stagnation' or 'paralysis' in Britain. The use of this clinical metaphor implies two potential resolutions to the aging, weak body of Britain: scientists must step in to heal and improve the body, or the body will degenerate and die. Thus, with the war, the role of the scientist changes, as they fashion themselves as healers for the public, rather than resentful labourers.

The year before the memorandum, in the April 1915 issue of *Science Progress*, the second note, 'The Fools' War', uses the extended metaphor of the corrupt tradesperson to interpret advances in war. The note is a review of the former Assistant Attorney-General of

article defending Darwinian Theory. Craggs does not appear again until October 1920, when the name is attached to two articles: 'Do English People Read?' and 'Learned Societies – A Plea for Reform'.

⁵⁶ Anonymous, 'The Betterment of Science', *Science Progress*, 9 (34) (October 1914), 354-355 (p. 354).

⁵⁷ *Ibid.*, p. 354.

the United States James M. Beck's (1861-1936) pamphlet *The Case of the Double Alliance v. the Triple Entente* (1914), about which the note is positive. The note claims to 'disentangle truth from falsehood', rhetorically working to fashion the *Science Progress* writer as an authority on war based on their scientific expertise and *Science Progress* as a vehicle for scientists to develop a polemic in which they are an integral component to the political and military success of Britain. The article asks:

What on earth did Germany and Austria expect to gain by this struggle [...] [...] She reminds me of a millionaire who is making immense profits by legitimate trade, but who, by some sudden obsession or madness, is foolish enough to attempt to rob another person of his watch! Such a man is suddenly flung in a moment from the heights of prosperity into the cell of a criminal – and all for what?⁵⁸

The use of multiple rhetorical questions emphasises their bafflement at the actions of Germany and Austria. The article's musings on the rich tradesperson, the metaphor first utilised in April 1914's 'Sweating the Scientist', indicates a mental (and perhaps moral) defect that leads to inexplicable actions not in the best interest of the tradesperson. Unlike the previous use of the tradesperson metaphor, this 'millionaire' tradesperson is imagined as successful because of their honesty: he is only weakened by a potentially innate 'obsession' or 'madness'. Since scientific truth cannot establish a logic for the motives of Germany and Austria, the implicit conclusion is that it must be illogical; a defect that has lain dormant in the nation until this point. Thus, *Science Progress* has utilised the mentally corrupted tradesperson metaphor along with an authoritative tone to assess, diagnose, and dismiss Britain's rivals in war.

'The Fools' War' highlights the British Government's lack of 'foresight' and 'preparation' in war, despite 'the most emphatic warnings from the highest experts', a comment echoed in the following year's *The Times* memorandum.⁵⁹ Subsequently, emphasis is placed on the outcome of Britain's wilful ignorance:

⁵⁸ Anonymous, 'The Fools' War', *Science Progress*, 9 (36) (April 1915), 663-666 (p. 664).

⁵⁹ *Ibid.*, p. 664.

[O]ur young men are to be slaughtered by the millions for the doings of these people! Ultimately the blame lies with the mass of mankind, who love to drink the strong wine of superstition, dogmas, and all kinds of falsities, and who hate the pure cold water of reason.⁶⁰

The writer, like many in *Science Progress*, makes liberal use of hyperbole to create visceral descriptions of death during the war, fuelling fear in the readership. The note identifies soldiers as ‘young men’, suggesting individual innocence and inexperience, and uses the highly emotive image of mass-slaughter to depict the war. Conversely, Britain is imagined as a body intoxicated and unwilling to become sober to reality. Metaphors of intoxication appear frequently in *Science Progress*, seemingly highlighting the public’s wilfulness to make poor choices.⁶¹ The use of ‘these people’ and ‘mass of mankind’ dehumanises the British public. Listing of the mass of mankind’s vices in ‘The Fools’ War’ emphasises the writer’s disgust: the public body is wilfully intoxicated by lies and refuses a purifying, unmanufactured solution. To conclude, the article again references the ‘mass’: ‘We still worship false gods which we call ideals, and graven images which we call statesmen, leaders, and kings. [...] [T]he fact remains that man in the mass is certainly a very dull creature’.⁶² There is a clear echo of the Ten Commandments, as the King James Bible reads: ‘Thou shalt have no other gods before me. Thou shalt not make unto thee any graven image’.⁶³ According to the article then, the British people have broken two commandments of science, committing sins which only scientists may absolve. Thus, the article creates an absolute need for scientific intervention for the moral good of Britain.

In the January 1916 issue of *Science Progress*, Ross takes ownership of the ‘mass of mankind’ image, signing the end of the note ‘R. R.’ This note is the climax of the

⁶⁰ Ibid., p. 664.

⁶¹ For intoxication metaphors throughout *Science Progress*, see Anonymous, ‘The Progress of the War’, *Science Progress*, 10 (40) (April 1916), 660-661 (p. 660); Anonymous, ‘War Inventions’, *Science Progress*, 10 (37) (July 1915), 147-149 (p. 147); Anonymous, ‘Science and the Sublime Vision, or the Seven Against One’, *Science Progress*, 10 (37) (July 1915), 107-113 (p. 107).

⁶² Anonymous, ‘The Fools’ War’, p. 666.

⁶³ *The Holy Bible Containing the Old and New Testaments*, Authorised King James Version, (Cambridge: Cambridge University Press, 1984), Exodus 20.3. King James Bible Online ebook.

magazine's use of the 'mass of mankind', a note Katy Price identifies as an obnoxious, overly forthright allegory, where Ross creates an elaborate satire addressing his concerns about modern-day society.⁶⁴ In the article, 'Mr Man-in-the-Mass' is joined by two 'dear friends', 'Marshal Miltarius' and 'Baron Politicus'.⁶⁵ While he imbibes alcohol, Mr Man-in-the-Mass marvels at the beautiful landscape and 'numbers of cities and villages'.⁶⁶ Mr Man-in-the-Mass turns to his friends and pompously declares 'see what I have made. That fell magician [the scientist] [...] pretends that he did this; but it was really I who made it'.⁶⁷ Subsequently Mr Man-in-the-Mass decides to crown himself: 'I am Emperor at last, and my name is Alexander-Pompey-Caesar-Autocrat-Plutocrat-Democrat-Journalist-General-Admiral-Secretary-of-State-Hans-Jean-Bull-Smith-Jones-Robinson-the Great, M.P.'⁶⁸ This overemphasis and inflation of his importance through these different signifiers, undermines and demeans each of the signifiers, indicating Ross's lack of respect for these titles or professions. After this ceremony, Mr Man-in-the-Mass waves the wand taken from the magician, but by doing so only brings destruction: people 'ran fighting and tearing at each other. The airships flew at each other and began to drop bombs [...] from the depths of the sea rose great iron monsters which torpedoed the ships that were sailing peacefully'.⁶⁹ Mr Man-in-the-Mass has unwittingly started a war. This article then functions as an allegory for the events of the First World War; a war which Ross had recently been told resulted in the death of his nineteen-year-old son.⁷⁰ Ross blames the war on the British, who believe that they have delivered peace, but in fact are merely consumers to solutions developed by disenfranchised scientists. Indeed, not only does war break out, but pathetic fallacy is

⁶⁴ Price, *Loving Faster than Light*, p. 59.

⁶⁵ R. R., 'Mr. Man-in-the-Mass', *Science Progress*, 10 (39) (January 1916), 484-487 (p. 484).

⁶⁶ *Ibid.*, p. 484.

⁶⁷ *Ibid.*, p. 485.

⁶⁸ *Ibid.*, p. 485.

⁶⁹ *Ibid.*, p. 485.

⁷⁰ According to Gibson and Nye, Ross's son, Charles, a member of the Royal Scots, died during the first few weeks of the war at Audencourt. At first, Charles was declared missing. It was not until 1916 that the family were informed that he had been killed. Only in 1919 did they find out that Charles had been buried in a common grave with the rest of the deceased soldiers at Audencourt.

employed to show nature itself turning against Mr Man-in-the-Mass because of his hubris: ‘The cloud grew more and more black, and the noise became more and more terrible’.⁷¹ While previously the allegory may have ended there, after a clear demonstration of the public’s ineptitude, in this case the magician (scientist) enters at the climax of the chaos, with his ‘long white beard, [...] dressed in an old robe figured with quaint mathematical designs’.⁷² He is accompanied by a figure recognisable from Ross’s poetry, explored in Chapter Three: ‘a beautiful lady with tears running down her cheeks’: despairing Truth.⁷³ The entrance of the magician and Truth at this point demonstrates a transition in *Science Progress*’s polemic for science: the magazine now begins work to fashion scientists not simply in opposition to the public, but also as professionals able to serve the public.

After this short satire Ross begins an analysis within the same article on the current status of the British Government, the war, and the neglect of science. He declares that ‘[t]he wonders were not made by them but by beings of another order who toil, plan, and think incessantly and who perish because of it’.⁷⁴ Defining scientists as ‘beings of another order’ echoes earlier *Science Progress* articles, such as the previously mentioned January 1914 note ‘The Genius of Science’, where men of science are declared more evolutionarily advanced than the ‘mass’.⁷⁵ The term ‘order’ also brings about connotations of a religious order, again implying science as a religion and scientists as part of a religious hierarchy. In contrast to this holy order devoted to scientific research, the public ‘do nothing but sleep, eat, play silly games, and look at silly books containing silly pictures – and so their life is spent.’⁷⁶ A regular rhetorical device in *Science Progress*’s polemic for science is emerging, as writers frequently list the vices of the British in order to emphasise the meaninglessness of their pursuits. The repetition of ‘silly’ highlights *Science Progress*’s characterisation of

⁷¹ R. R., ‘Mr. Man-in-the-Mass’, *Science Progress*, 10 (39) (January 1916), 484-487 (p. 484), p. 485.

⁷² *Ibid.*, p. 486.

⁷³ *Ibid.*, p. 486

⁷⁴ *Ibid.*, p. 486.

⁷⁵ *Ibid.*, p. 486.

⁷⁶ *Ibid.*, p. 486.

the British public as wilfully immature and ill informed. Orthodox religion becomes a target for attack later in the article, as Ross writes that beliefs ‘have been taught to them by self-schemers [...] too often their religions are but superstitions and their ideals base.’⁷⁷ Thus, orthodox religion, not based on or confirmed by scientific method, is utilised solely for the gratification of self-serving members of the public, and those who are being lied to are characterised as too foolish to search for true, scientific understanding. According to Ross’s fashioning of science and scientists then, the scientific method is wholly unbiased, and scientists are an advanced race of selfless individuals.

In the short conclusory paragraph, Ross explains why he borrowed figures from *The Tempest* (1611) to populate his allegory. In the satire, the magician disparages Mr Man-in-the-Mass, who he describes as a ‘wicked Caliban’, making a clear parallel with Shakespeare’s play.⁷⁸ Further allusions to *The Tempest* are made with the magician’s description of Marshal Militarius and Baron Politicus as Trinculo, the jester, and Stephano, Prospero’s incompetent butler. Ross comments that: ‘the Great Poet [Shakespeare] when he came near the end of his life saw the truth of all this and constructed his last and most beautiful allegory.’⁷⁹ While *The Tempest* was not Shakespeare’s final play (it was third from last) it is obvious that this is the play to which Ross alludes. Ross continues:

He saw the exile of the gentle and wise Bringer of Prosperity with his daughter the Wonderful; and he saw also the qualities of the mass, the average of the multitudinous variations of nature; the creature with the infinite crassitude of the intellect of the mob - Caliban.⁸⁰

Bringing together his polemic for science, his understanding of how science and scientists must fashion themselves at this time in order to express their treatment and advance their field, Ross offers a clear parallel between the characters of *The Tempest* and

⁷⁷ Ibid., p. 487.

⁷⁸ Ibid., p. 487.

⁷⁹ Ibid., p. 487.

⁸⁰ Ibid., p. 487.

contemporaneous society. He identifies the public persona of the scientist as Prospero, the rightful Duke of Milan, a noble exiled public official. Miranda, Prospero's daughter, is imagined as scientists' glorious progeny of scientific discoveries. Finally, the British public is Caliban, a creature, 'not honour'd with a human shape' who attempts to rape Miranda in hopes of populating 'this isle with Calibans' and temporarily takes Stephano as their god, highlighting the public's ignorant neglect of scientists and abuse of scientific discoveries for illicit ends.⁸¹

'The Cash Value of Scientific Research', a note reviewing Professor Thorburn Brailsford Robertson's (1884-1930) pamphlet of the same name, takes a far less hyperbolic approach to discussing the professionalisation of scientists than 'Mr Man-in-the-Mass'. Robertson claims that "'the average man in the street or man of affairs [...] has no very clear conception of what manner of man a 'scientist' may be'".⁸² As mentioned earlier, Sydney Ross suggests that 'scientist' was still a controversial term even within the field of science as late as 1895.⁸³ This note in *Science Progress* indicates that lack of understanding by the 'average man', synonymous with tradesperson, regarding the plight of scientists may, at least in part, be due to confusion about what a scientist is. Robertson, whose pamphlet the note quotes at length, claims that the blame lies with scientists who do not convey the importance of science to contemporaneous society. Robertson employs a key trope of Ross's polemic for science, representing scientists as 'impoverished figures', as he claims scientist Michael Faraday (1791-1867) "'died a poor man...because... he found it necessary to choose between the pursuit of wealth and the pursuit of science, and he deliberately chose the latter'".⁸⁴ This depiction, reminiscent of Ross's characterisation of scientists as Prospero figures, echoes throughout *Science Progress*, and in Ross's

⁸¹ William Shakespeare, *The Tempest*, ed. by William Hazlitt (London: Routledge, 1852), ll. 2. 419-420. Ibid., ll. 2. 508.

⁸² Anonymous, 'The Cash Value of Scientific Research', *Science Progress*, 10 (39) (January 1916), 487-489. (p. 487).

⁸³ Sydney Ross, p. 71.

⁸⁴ Anonymous, 'The Cash Value of Scientific Research', p. 487.

Memoirs, as evidenced in Chapter One. However, while Robertson sees destitution as avoidable (Faraday ‘deliberately chose’ science), *Science Progress* utilises this image of the impoverished scientist to question the inevitability of scientists’ status:

Why, we ask, because a man happens to be endowed with genius, should he therefore lack the means of subsistence? Is genius a sin for which poverty is a fitting punishment? [...] [T]he labourer is worthy of his hire.⁸⁵

With these two rhetorical questions, forming a passionate objection, *Science Progress* refuses to accept Robertson’s conclusion. The note borrows a biblical idiom, imagining scientists as the lowly labourer, in order to express a desire only for pay equal to their work, evoking sympathy from the readership. The note ends by putting forth Robertson’s proposals for the advancement of science: scientists need to provide financial aid to create endowments for science, science needs to be taught at university level, and taxes must be collected on profits made from discoveries and inventions.⁸⁶ According to Robertson, these alterations would provide ‘a policy of bare justice’.⁸⁷ Robertson’s solutions (suggestions that, by this point, were made regularly in *Science Progress*) would become the key tenets of the Neglect-of-Science debate, evident in the plea for educational reform in *The Times* memorandum.

From the onset of the war the constellation of tropes to identify and demonise the public and to identify and draw attention to the plight of the scientist are evidently heightened and exaggerated. By establishing and expanding the ‘Notes’ section, Ross has successfully carved out a space for alarmist, antagonistic and (mostly) anonymous comments about the public’s treatment of scientists. Along with this intensification of Ross’s polemic for science, *Science Progress* not only wants to fashion scientists in opposition to the public, but also as a group of professionals able to work on behalf of the

⁸⁵ Ibid., p. 489.

⁸⁶ Ibid., p. 489.

⁸⁷ Ibid., p. 489.

public during wartime: scientists should show themselves as capable problem-solvers, as the magician did at the close of Ross's 'Mr Man-in-the-Mass'. By fashioning themselves in this way, they can appear as selfless altruists, a holy order only wishing for the gratitude and respect they are owed. However, these issues are also being stressed by *Science Progress* because, during the First World War, they saw an opportunity to improve the social, political, and professional status of the scientist. To resolve these shortcomings in Britain and advance the status of scientists, *Science Progress* begins to advocate for a post-war technocracy run by scientist-soldiers.

From Knights of Science to Soldiers of Science

In his *Memories and Adventures*, Ross's friend Arthur Conan Doyle recounts meeting Oscar Wilde (1854-1900) in 1889. During the encounter, Wilde prophesied that in 'the wars of the future': "A chemist on each side will approach the frontier with a bottle – his upraised hand and precise face conjuring up a vivid and grotesque picture."⁸⁸ By the time of Ross's editorship of *Science Progress*, Wilde's prophesy was approaching reality.

Wang, charting the advancement of academic science during the First World War, explains that 'barely a few weeks after the outbreak of conflict in 1914, [...] *Nature* concluded that "this [...] is a war in which pure and applied science plays a conspicuous part"⁸⁹ *Nature* called on scientists 'to organise themselves for work on military technology [...]. Others agreed, calling the war a contest "of engineers and chemists quite as much as of soldiers"⁹⁰. Britain's unpreparedness for war, partially due to lack of scientific education, as fervently argued in *Science Progress*, but also due to Britain's reliance on Germany for the chemical and textile industry, gave scientists 'an unprecedented opportunity to make

⁸⁸ Arthur Conan Doyle, *Memories and Adventures* (London: Wordsworth Classics, 2007), p. 66.

⁸⁹ Wang, p. 109.

⁹⁰ *Ibid.*, p. 109.

their case' for social, political, and professional advancement.⁹¹ To do this, *Science Progress* refashions scientists as indispensable soldiers in times of war.

As mentioned in Chapter One of this thesis, Emilie Taylor-Brown examines how Ross and fellow parasitologists 'negotiated two movements' in the creation of their professionalisation: 'the building of Empire' and the 'medieval revival'.⁹² Taylor-Brown explains that 'many parasitologists consciously negotiated these two movements, appropriating and hybridising Imperialist and Arthurian rhetoric in order to construct their professional identities'.⁹³ She foregrounds her argument with a quotation from Ross's 1905 obituary of parasitologist Joseph Dutton (1874-1905), where Ross names Dutton 'a knight of science'.⁹⁴ Taylor-Brown claims that this heroic conceptualisation of the parasitologist was used 'to romanticise parasitology by grounding it in literary history'. This branding,

created a story with memorable protagonists who formed the public face of the discipline. [...] The glorification of the individual allowed – even encouraged – the divulgence of personal details otherwise denied to the reader of scientific research. This facilitated a familiarity with the figure that cultivated the potential for celebrity.⁹⁵

This section charts *Science Progress*'s clear disillusionment with 'knight of science' rhetoric. In wartime issues of *Science Progress*, Ross did not want to highlight 'memorable protagonists' or to promote 'glorification of the individual'. Instead, this section argues that *Science Progress* rejects what it characterises as the outmoded archetype of the 'knight of science' in favour of the modern collective of soldier scientists, professionals working in unison to enable Britain's success in the First World War, therefore warranting their social, professional, and political advancement post-war.

⁹¹ Ibid., p. 109.

⁹² Emilie Taylor-Brown, '(Re)Constructing the Knights of Science: Parasitologists and their Literary Imaginations, *Journal of Literature and Science*, 7 (2) (2014), 62-79 (p. 64).

⁹³ Ibid., p. 64.

⁹⁴ Ibid., p. 62.

⁹⁵ Emilie Taylor-Brown, *Miasmas, mosquitoes, and microscopes: parasitology and the British literary imagination, 1885-1935*. (PhD Thesis, University of Warwick, 2016) pp. 142-143.

‘The British Science Guild and the Fight for Science’ note in the April 1915 issue of *Science Progress* suggests this new professional persona for scientists as soldier-scientists. The note claims that the war may yield a positive outcome for advancement, only if scientists fashion themselves as combatants. Before the outset of the war, science ‘seemed almost to have been forgotten’ and were without hope of advancement.⁹⁶ Now, however, ‘the moment appears to be an auspicious one for endeavouring to impress upon both British Governments and their subjects that there is such a thing as science’.⁹⁷ This sentence reads as a plan of attack during war: scientists aim to inflict the most fervent arguments for the promotion of science at a moment when the national consciousness can be easily concentrated on the importance of the subject and its value to the nation. The British have been ignorant of science, but now they cannot afford to be if they wish to win the First World War. The title alone, labelling this awareness-raising effort as a ‘fight’, evidences *Science Progress*’s perpetuation of military rhetoric as part of their polemic for science. The notion of science *fighting* for its place in education and social status continues in the second paragraph. The writer tells his readership that the British Science Guild ‘has now taken up the direction of affairs’ in relation to the ‘difficulties under which science labours in Britain’: circulars will be issued ‘to all men of science asking for information on many points.’⁹⁸ If any scientist does not receive this circular, they are strongly advised to contact *Science Progress*, so that information can be sent to them.⁹⁹ This reads as a voluntary subscription method to the ‘fight’ for science, with the final somewhat-threatening sentence ensuring that scientists sign up to fight for their field (‘we sincerely hope that all scientific workers will support the Guild, and, if they do not receive copies of these circulars, will write for them’).¹⁰⁰ This note evidences scientists’ hope for social,

⁹⁶ Anonymous, ‘The British Science Guild and the Fight for Science’, *Science Progress*, 9 (36) (April 1915), 663 (p. 663).

⁹⁷ *Ibid.*, p. 663.

⁹⁸ *Ibid.*, p. 663.

⁹⁹ *Ibid.*, p. 663.

¹⁰⁰ *Ibid.*, p. 663.

political, and professional advancement, perhaps to the point of establishing a technocracy, as a result of the First World War.

Just a decade after Ross penned Dutton's obituary proclaiming him a 'knight of science', he includes a review in *Science Progress* where knights of science are mercilessly ridiculed. The July 1915 essay-review of 'Science and the Sublime Vision, or the Seven Against One: on Science and Religion' evidences the development of the professional identity of the scientist, as the writer explicitly rejects the 'knight of science'. The essay-review develops a satire based on the essay by 'Seven Men of Science', including notable figures such as physicist and spiritualist Sir Oliver Lodge (1851-1940), electrical engineer, physicist, and devout Christian Sir John Ambrose Fleming (1849-1945), and physicist Silvanus Phillips Thompson (1851-1916). The review begins with the article mocking the writers' notion of the 'Vision', describing Earth as an Eden: 'this Paradise [where] we wander among flowers and streams for our beatific life'.¹⁰¹ Upon death, the article notes that these men of science imagine we 'are instantly translated to another Elysium a thousand times more beautiful, where we shall live forever [...]. In this second abode we shall have no troubles, nor care'.¹⁰² The review describes the essay-writers as 'seven gentle and enthusiastic Knights of science and religion'.¹⁰³ The metaphor is extended through the entirety of the article for hyperbolic effect, with the writer imagining that: 'they all wear armour and are seated on war-steeds', 'they conducted the tournament in a place called Browning Hall', '[a]s each Knight advanced in turn, dressed in full armour, with his plumes streaming on the wind, he invariably upset his Paynim adversary'.¹⁰⁴ The extent to which the article commits to this metaphor highlights the absurdity of the now outmoded romanticised image of the knight of science, who aims to work against the 'Paynim

¹⁰¹ Anonymous, 'Science and the Sublime Vision, or the Seven Against One', *Science Progress*, 10 (37) (July 1915), 107-113 (p. 107).

¹⁰² *Ibid.*, p. 107.

¹⁰³ *Ibid.*, pp. 107-108.

¹⁰⁴ *Ibid.*, pp. 107-113.

adversary’, defined as a ‘pagan or non-Christian’, to prove their theories.¹⁰⁵ The ‘Paynim adversary’, the anti-Christian scientist, hints at a regular message found in *Science Progress* during the Neglect-of-Science debate: that writers for the magazine wish science to take the place of Christianity in Britain, not use science to bolster Christianity.

The close of the article challenges the definition of religion put forth by the obsolete knights of science. The review notes how the knights identify a religion through conceding ‘the existence of Higher Powers than man’, ‘a life beyond, an immortality of the soul’, and ‘an obligation of right conduct, of justice, of mercy, of obedience to duty’.¹⁰⁶ Subsequently, the article claims that, in fact, ‘the true identity of religion lies only within the third of these clauses’ and disregards the rest.¹⁰⁷ This allows them to place the scientific notion of evolution as a form of secular religion, tying it to the battles being fought in the First World War:

to-day we see the most magnificent exhibition of religion; [...] among the hundreds of thousands of young men going to their death, [...] for their country – driven not by any sense of recompense, but by the profound instinct, instilled into them by millions of years of evolution, which is true religion.¹⁰⁸

The article evokes a strong sense of empathy for soldiers, paralleling the lack of respect and support given to soldiers with the neglect of scientists. The previous implications of science as religion made in earlier issues of *Science Progress* are explicitly stated in this article. By linking scientific knowledge to an understanding of the war effort here, the writer advocates for a technocracy. It is implied that a post-war technocracy would disregard the ‘sublime vision’ conjured up by Christianity and propagated by these knights, putting in its place an honest, scientific understanding of the sacrifices made by young soldiers, honouring their efforts appropriately. To end, the review provides a final

¹⁰⁵ ‘Paynim, n. and adj.’ in *The Oxford English Dictionary* [online], URL: <https://www.oed.com/view/Entry/139194?redirectedFrom=paynim> [Accessed: 29 August 2019].

¹⁰⁶ Anonymous, ‘Science and the Sublime’, p. 112.

¹⁰⁷ *Ibid.*, p. 112.

¹⁰⁸ *Ibid.*, p. 112.

hyperbolic metaphor to exaggerate the absurdity of the knights. The writer utilises a metaphor of intoxication, an already established trope of *Science Progress*'s polemic for science: 'There is such a thing as wine which, when red and strong, buoys us for a while, but which, as some of our Knights will certainly confess, is detrimental in the end.'¹⁰⁹ Thus, as in the previous examples in which the intoxication metaphor is used, this snide remark envisions the knights as men drunk on Christianity. According to the review then, Christianity might appear to provide answers to existential fears at first, but when put to honest scientific reasoning it is shown to be false.

The notion that references to knights has become outmoded is clear in the July 1915 issue of *Science Progress*, where the advancement of war technology is said to have transformed knights into soldiers. A note at the end of the issue, 'War Inventions', criticises lack of scientific education in Britain, as it explains that those without specialist knowledge 'cannot possibly know the actual facts of how the war will be won by minute adaptations to technology'.¹¹⁰ According to the note, scientists, 'who know from experience how much often depends upon trifling improvements of instruments or of technique, will know what this remark implies'.¹¹¹ Echoing the assertions of *Nature*, the other leading periodical of the Neglect-of-Science debate, *Science Progress* implies that British scientists are a critical part of the war: their work decides Britain's success. During the First World War then, scientists have been placed in the role of soldiers and defenders of their country. The writer explains that 'modern warfare is really based upon mechanical inventions, and even strategy has been forced to conform itself to them'.¹¹² This sentence implies that some degree of technocratic governance is perhaps already in place during the war, as scientists now not only fight the war but dictate war strategies.

¹⁰⁹ Ibid., p. 113.

¹¹⁰ Anonymous, 'War Inventions', *Science Progress*, 10 (37) (July 1915), 147-149 (p. 147).

¹¹¹ Ibid., p. 147.

¹¹² Ibid., p. 147.

The note goes on to address a false rumour that an Italian scientist had discovered a way of destroying ‘shells, cartridges and even magazines at a distance by means of certain rays’, which would ruin modern military technology and ‘take us back to the Middle Ages’.¹¹³ The note imagines this regression in great detail, comparing contemporaneous soldiers’ ‘rat-like struggles’ in the trenches with ‘knights, and men-at-arms, clad in mail and fighting with spears, swords and “morning-stars.”’¹¹⁴ The note claims that these medieval battles might have been ‘picturesque’, explicitly making reference to the knight of science archetype as a method to romanticise the scientific pursuit, however they are now outmoded and found to be an unsuitable reference for modern warfare. Moreover, unlike the scientific intricacies of modern warfare, it is supposed that these battles may have been ‘decided [...] in a few weeks’.¹¹⁵ This note evidences the link between the rejection of the romanticised, individualistic knight with a war between two collectives of soldier-scientists in an effort to create a post-war technocracy ruled by those scientists. The romanticised image of the knight of science then is no longer useful for the goal scientists’ wish to achieve. Rather than lifting individual scientists to a position of ‘celebrity’, as Taylor-Brown asserts was the ultimate goal of knight of science branding, *Science Progress* instead wishes to lift the entire profession to an elevated position in British society.

While not enabling a position of individual celebrity, the image of the soldier scientist implies the possibility of a formal military hierarchy within the imagined scientific military or, even more broadly, in a newly established technocratic community. Ross subtly positions himself in this leadership role. In ‘The Professors and the Organisation of Research’, the writer, only named ‘An Assistant’, discusses Ross’s ‘Attempts to Manufacture Scientific Discovery’ published in *Nature* on January 17, 1915.

¹¹³ Ibid., p. 148.

¹¹⁴ Ibid., p. 148.

¹¹⁵ Ibid., p. 148.

The assistant suggests that they cannot be the ‘only scientific man in England whose doubts as to the wisdom of our present methods of organising scientific research have been accentuated by Sir Ronald’.¹¹⁶ This article confirms Ross’s status as spokesperson for science, imbuing him with the ‘immense cultural authority and intellectual prestige’ that Lightman identifies in arbiters of scientific truth.¹¹⁷ The article goes on to share thoughts on the overwork of university Chairs, who, they claim, have no time to give to the fight for science due to their university responsibilities. The assistant asks:

Can we wonder that [action for scientific research] is badly done? Should not work of this nature be important enough to demand all the time and thought of one man? Should not a man who undertakes it be expected to have it continually in mind to the exclusion of all other professional concerns?¹¹⁸

Asking rhetorical questions in order to heighten distrust and uncertainty in government affairs was becoming common in the anxious polemic for science that Ross established in the magazine. While these questions go unanswered, since only Ross’s name is included in the article and because Ross chose to include the article in *Science Progress*, it is evident that Ross wishes to fashion himself as a spokesperson and potential future leader of these impoverished soldier-scientists in a battle for a post-war technocracy.

A year later, three months post-*The Times* memorandum, Ross explicitly advanced himself as an ideal candidate to command the scientific army. Due to his discoveries about the transmission of malaria, Ross had established scientific-imperial credentials: his participation in science and empire legitimises his candidacy as technocratic national leader. Taylor-Brown confirms this explicit link between parasitologists and the imperial project, stating that ‘the rhetoric of empire became decisively associated with parasitologists and their research, linking the progress of the discipline with the progress of

¹¹⁶ An Assistant, ‘The Professors and the Organisation of Research’, *Science Progress*, 9 (36) (April 1915), 672-674 (p. 672).

¹¹⁷ Bernard Lightman, *Victorian Popularisers of Science: Designing Nature for New Audiences* (Chicago: University of Chicago Press, 2009), p. 5.

¹¹⁸ *Ibid.*, p. 673.

the empire at large'.¹¹⁹ Indeed, this is evident in a review of Ross's *Memoirs*, noted in Chapter One, when the reviewer proclaimed him the 'empire builder'.¹²⁰ Ross harnesses this association for his take on the Neglect-of-Science debate in *Science Progress*, using it to propel himself forward as a possible leader of a post-war technocracy in 'Great Science and Little Science'. While the note, which links the progress of the empire with scientific progress, appears anonymously, the intertextuality between the note and *Memoirs* seems striking enough to suggest that it was most probably penned by Ross. The note derides science 'of little value', which is defined as the 'largest proportion of the papers [...] – records of hypotheses, results of a few haphazard observations, inconclusive, mere lumber to be thrown into the dusty attics of knowledge'.¹²¹ As explored in Chapter One, this position is echoed by Ross at the opening of *Memoirs*, where he claims 'books of science are records of results'.¹²² The note writer asks:

After all, what is the difference between high science and low science? The one is the solution of difficult problems, the other the record of isolated observations. [...] Great problems once solved are always solved; and the solutions are milestones in the life-story of the race.¹²³

'[D]ifficult problems' and 'great problems' are regularly used by Ross to discuss his work. Again, later in *Memoirs*, Ross would consistently use the term 'problem' to refer to his scientific research, identifying it as 'high science', even using the term for the subtitle *Memoirs: with a full account of the great malaria problem and its solution*. Referencing these problems as 'milestones in the life-story of the race' also links to Ross's wider writings: in *Memoirs* Ross notes that his 'exact history of a real medical investigation' will be 'instructive and useful to those who desire the progress of the race'.¹²⁴ Bowler notes that

¹¹⁹ Emilie Taylor-Brown, *Miasmas*, p. 131.

¹²⁰ Anonymous, 'Sir Ronald Ross: The Memoirs of an Empire Builder', *The Observer*, 24 June 1923, pp. 16.

¹²¹ Anonymous, 'Great Science and Little Science', *Science Progress*, 10 (40) (April 1916), 658 (p. 658). Emphasis mine.

¹²² Ronald Ross, *Memoirs: with a full account of the great malaria problem and its solution* (London: John Murray, 1932), p. vi. Emphasis mine.

¹²³ Anonymous, 'Great Science', p. 658.

¹²⁴ Ross, *Memoirs*, p. 362.

preceding the First World War, ‘imperialist propaganda’ encouraged the view of Britain ‘as the centre of empire on which the sun never set.’¹²⁵ Bowler explains that this

ideology spilled over directly into science communication with the *Harmsworth Popular Science* [...]. Science provided an ever-expanding source of new technologies [...] and it had also opened up the world to colonization through medical advances such as the control of malaria.¹²⁶

Ross’s scientific problem-solving then was the pinnacle of what medico-scientific research could do to benefit the British Empire. As the embodiment of the link between imperialist propaganda and popular science communication, Bowler reprints a 1911 illustration of Ross from *Harmsworth Popular Science*, ‘in academic robes’, ushering soldiers out of a fortress (presumably Britain) into the colonies where ‘the scourge of malaria is defeated’.¹²⁷ Who better then to usher in the British post-war technocracy than the scientist who has done ‘more for the British Empire, than the man who adds a new province to the wide dominions of the Queen’?¹²⁸

The Denouement of the Debate

According to Mayer’s analysis of the Neglect-of-Science debate by autumn 1916 ‘[a]crimonious journalistic activity and blatant territoriality decreased [and] praise of liberal ideals from all sides abounded.’¹²⁹ During this time ‘negotiation meetings [...] were arranged [...], the fruits of these negotiations became public’ and the British Association for the Advancement of Science (BAAS) ‘appointed a committee on science teaching in secondary schools’.¹³⁰ The denouement of the debate, evident in the change of tone and

¹²⁵ Bowler, p. 26.

¹²⁶ *Ibid.*, pp. 26-27.

¹²⁷ *Ibid.*, p. 27.

¹²⁸ Ross, *Memoirs*, p. 434.

¹²⁹ Mayer, ‘Reluctant Technocrats’ p. 151.

¹³⁰ *Ibid.*, p. 151.

content in issues of *Science Progress* from 1917, indicates the decreasing need for attention on the key tenets of the Neglect-of-Science debate, due to increased public interest in the professionalisation of science and scientists. From a close reading of the magazine, it appears another reason for the decreasing ‘acrimonious journalistic activity and blatant territoriality’ in *Science Progress* is because the editorship changed. From July 1918, Ross is no longer the sole editor and curator of the magazine. Listed on the cover page are his assistants: physicist Dudley Orson Wood (1888-1966) and zoologist James Brontë Gatenby (1892-1960). Wood was an Assistant in Physics at University College London from 1910, was appointed Senior Lecturer in Physics in 1920, and remained there until his retirement in 1952.¹³¹ When Gatenby became Ross’s assistant-editor, he was finishing his DPhil at Oxford, then progressing to Senior Assistant in Zoology and Comparative Anatomy at University College London in 1919, where he would become lecturer in 1920. In 1921, he became Professor of Zoology and Comparative Anatomy at Trinity College, Dublin where he stayed until his retirement. The effect of their influence, along with positive developments regarding educational reforms, is evident in the tonal shift in *Science Progress*.

In the October 1917 issue of *Science Progress* two notes appear to signal the close of its wartime polemic for science. The anonymous writer uses fifteen pages of the magazine (six and a half for ‘The World’s Misrulers’ and eight and a half for ‘The Reform of Democracy’) to present their case against contemporaneous ruling powers. While these articles are not attributed to Ross, there are hints that at least ‘The World’s Misrulers’ may have been written by him. As mentioned in the discussion of ‘Great and Little Science’, where the intertextuality with Ross’s *Memoirs* appeared striking enough to implicate him as author, ‘The World’s Misrulers’ is similarly striking. This article, due to its unusual length for a note, is given subsections, with titles like ‘The Great Crime’ and ‘The Great

¹³¹ R. C. Brown, ‘Mr. D. O. Wood: An Appreciation’ in *The Physics Bulletin*, 17 (365), (1966), URL: <https://iopscience.iop.org/article/10.1088/0031-9112/17/10/007/pdf> [Accessed: 20 November 2019].

Folly’, a common phraseology in Ross’s writings, as evidenced in Chapter One of this thesis. Further, the writer notes that they were ‘in Germany just before the war’.¹³² In January 1912, after the Russian Duma paid a visit to British parliament, Ross, who was part of a convoy of British dignitaries, travelled through Germany heading to Russia to meet ‘the young nobility [...] the Tzar [Nicholas II (1868-1918)] and Tzaritza [Alexandra Feodorovna (1872-1918)]’ of the Russian Empire’.¹³³ Additionally, newspapers and periodicals attribute the article to Ross, highlighting the fact that some anonymous articles in *Science Progress* are seemingly read as the voice of the editor.¹³⁴

Beginning with the now expected colourful hyperbole, ‘The World’s Misrulers’ opens:

Humanity will never be the same after this war as it was before it. It will always feel like a man who was at the height of his prosperity but in a sudden moment of aberration has committed an appalling crime.¹³⁵

This Icarian moment resonates with the October 1914 article ‘The Betterment of Science’, where Germany is imagined as a mad tradesperson ‘making immense profits by legitimate trade, but [...] is foolish enough to attempt to rob another person of his watch’.¹³⁶

However, rather than using the metaphor to identify one particular country, the article implicates everybody in this ‘crime’, lessening the accusatory tone of the magazine. The article goes on to address various atrocities of war:

We, who were honest labourers, farmers, traders, doctors, and lawyers, had to go forth [...] to do evil things: to blow other men like ourselves to pieces with bombs and shells [...] to bring them shrieking down from heights in the air, to fling them upwards by subterranean explosions.¹³⁷

¹³² Anonymous, ‘The World’s Misrulers’, *Science Progress*, 12 (46) (October 1917), 295-301 (p. 298).

¹³³ Ross, *Memoirs*, p. 510.

¹³⁴ Anonymous, ‘The World’s Misrulers’, *The Brisbane Courier* (27 December 1917), p. 6.

¹³⁵ Anonymous, ‘The World’s Misrulers’, *Science Progress*, p. 295.

¹³⁶ Anonymous, ‘The Betterment of Science’, p. 354.

¹³⁷ Anonymous, ‘The World’s Misrulers’, *Science Progress*, p. 295.

Again, readers can identify a change of tone when compared with *Science Progress*'s wartime polemic for science. Instead of weapons showcasing the utility and necessity of scientist soldiers, explosives, bombs, missiles, and planes are featured to emphasise the world's hubris. This sentiment stands in stark contrast with the April 1915 note, 'The British Science Guild and the Fight for Science', which characterised war as an 'auspicious' 'moment' to emphasise 'to both British Governments and their subjects that there is such a thing as science'.¹³⁸ Further, rather than being undermined and accused of only doing 'good service to the few people surrounding them', as they had been in the 1914 note 'Sweating the Scientist', doctors and lawyers are in this article being hailed as virtuous members of society who had no say in a war in which they had to risk their lives.¹³⁹

'The Reform of Democracy' claims that Britain was not a democracy before the war, but an oligarchy. Nevertheless, at the last moment, Britain's 'navy [...] kept the surface of the ocean', Britain 'created new armies' and 'new munitions factories', British scientists 'found how to destroy Zeppelins and to control disease and cure wounds in the field', 'the War Office [...] organised a gigantic supply and transport service': Britain's success then was due to their mobilisation of soldier scientists.¹⁴⁰ Recycling another trope of *Science Progress*'s polemic for science, the article refers to Britain as a body: 'That body of the nation was healthy – but it possessed no brain'.¹⁴¹ Again, this is somewhat in contrast to earlier metaphors about the body of Britain, where the country was imagined as sickly, elderly or intoxicated. With this metaphor, the article lessens the burden of blame on the British public, instead blaming the brainless British government. The reference to the examination of a body implies a kind of post-mortem study of Britain after the war, where instead of building on the signature alarmist and antagonistic rhetoric to accuse the

¹³⁸ Anonymous, 'The British Science Guild and the Fight for Science', p. 663.

¹³⁹ Anonymous, 'Sweating the Scientist', p. 602.

¹⁴⁰ Anonymous, 'The Reform of Democracy', *Science Progress*, 12 (46) (October 1917), 301-309 (p. 300).

¹⁴¹ *Ibid.*, p. 300.

British government and the British public of wrong-doing, *Science Progress* uses the metaphor to calmly and carefully dissect past issues. This more relaxed, analytical tone is evident too in the longer length of this note, at six and a half pages, and the second note of this issue ‘The Reform of Democracy’, which is eight and a half pages. *Science Progress* appears less anxious to present multiple short articles on different aspects of neglect of science, instead opting for longer, more measured pieces carefully examining past events.

‘The Reform of Democracy’ states that, if we accept democracy to mean ‘not only a type of government accepted by the people, but one in which the people really approve and sanction every separate enactment’, then Britain is not a democracy, but an oligarchy.¹⁴² The article claims that those truly fit to represent Britain are unable to because of the hurdles currently in place:

What chance has the man of exceptional intellect to enter Parliament? He is sure to be a busy man, and probably too pre-occupied to be wealthy, too honest to accept one item of a programme for the sake of another item. But he must sacrifice his time in button-holing caucuses, his money in paying for his election, and his conscience by joining a party!¹⁴³

Considering the ways in which the magazine has characterised scientists up until this point, it seems fair to say that they are suggesting that ‘men of exceptional intellect’ are scientists, who would make excellent statesmen, only lack of time, money, means, and extroversion limit them from considering the role. In the closing sub-section, ‘What Shall We Do, Then?’, the note states two possible options for Britain, ‘to maintain the oligarchic system, but to make reforms’ to enable proper representation, or what reads much like the proposal of a technocratic state:

remove the representative system altogether as being no longer required in these days of railways, posts, and telegraphs, and to subject every important legislative and executive enactment, and the appointment of heads of the great departments, to

¹⁴² Ibid., p. 308.

¹⁴³ Ibid., p. 305.

the entire people themselves by referendum – thus making the people really responsible for their own welfare.¹⁴⁴

Invoking forms of transport and communication to emphasise society's progress, progress made due to the work of scientists, the article implies that these are the markers of a modern, advancing society. In this style of direct democracy, 'heads of the great departments', those educated to understand and contribute to this rapidly industrialised world, would rule, marking a change from the oligarchical system.¹⁴⁵ Whatever the case, the writer relinquishes the decision making to the readers of the note, concluding that 'both alternatives will spell revolution [...] Only thought and science can guide us through it'.¹⁴⁶

The writer and psychiatrist Charles Mercier (1851-1919), evidences another significant change in tone from the earlier alarmist, antagonistic and (mostly) anonymous notes, with his article 'Cd. 9011'. Firstly, he attributes his name to the note, perhaps in a move to disband the notion of the anonymous collective of soldier scientists which *Science Progress* had been previously attempting to invoke. Secondly, the tone is no longer hostile and scaremongering, but triumphant and congratulatory: a clear marker of scientists' success. 'Cd. 9011' was 'the official designation of the Report of the Committee appointed by the Prime Minister [...] in 1916 to inquire into the position of Natural Science in the Educational System of Great Britain'.¹⁴⁷ Despite Ross's efforts to fashion himself as an authority on science and a convincing public intellectual, his name is not included in the list of members who helped pen the Cd. 9011. Perhaps this lack of involvement was due to his frequent hostile comments about the British Government in general, and Herbert Henry Asquith particularly.¹⁴⁸ Mercier claims that 'a more admirable Report it has never been my

¹⁴⁴ Ibid., p. 308.

¹⁴⁵ Ibid., p. 308.

¹⁴⁶ Ibid., p. 309.

¹⁴⁷ Charles Mercier, 'Cd. 9011', *Science Progress*, 13 (49) (July 1918), 97-106 (p. 97).

¹⁴⁸ For articles disparaging Prime Minister Herbert Henry Asquith, see Anonymous, 'A Hoped-for Revolution in Britain', *Science Progress*, 10 (37) (July 1915), pp. 151-153; Anonymous, 'Brainless Britain', *Science Progress*, 10 (40) (April 1916), pp. 658-659.

good fortune to peruse'.¹⁴⁹ This marks a drastic change in sentiment and tone toward the government, particularly governmental experts, who had previously been demonised.¹⁵⁰ Mercier claims that now 'the country at large is deeply stirred by a consciousness of the deficiencies of our system of Education'.¹⁵¹ This is uncharacteristically hopeful for *Science Progress*, as Mercier accepts that the public has recognised that action needs to be taken to reform education and that they are willing to make those changes.

Through the course of the article, Mercier creates an imagined history of Asquith's thought process before deciding to bring together the committee who would create the Cd. 9011. Mercier describes Asquith as a man of the 'Oxford tradition of the cult of uselessness and verbiage'.¹⁵² When war broke out, Mercier speculates, Asquith was suddenly struck by the notion that

there are such things in the world as hard facts, [...] we can hear him inquiring whether there is anyone who knows anything about these awkward, embarrassing, degraded things called facts, and being told about a realm of knowledge called Science [...]. Hence the appointment of the Committee.¹⁵³

Despite scientists working to attract the attention of Asquith, Mercier attributes the changing circumstances in education to Asquith looking for and finding out about science of his own volition. In this characterisation of the Prime Minister, there is no doubt he is still seen as an inadequate leader, but here at least he seems to be awarded credit for the creation of the committee.

According to the report, 'the Committee demands [...] in Boy's Secondary Schools, from three hours to five and a half hours per week, and in Girl's Secondary Schools three hours per week' of scientific instruction.¹⁵⁴ Mercier claims this is an excellent attempt at

¹⁴⁹ Ibid., p. 97.

¹⁵⁰ For examples of the demonisation of governmental experts in *Science Progress*, see Anonymous, 'Experts and Official Experts', *Science Progress*, 10 (40) (April 1916), pp. 661-663.

¹⁵¹ Charles Mercier, p. 97.

¹⁵² Ibid., p. 99.

¹⁵³ Ibid., p. 99.

¹⁵⁴ Ibid., p. 102.

diversification of the current curriculum, which seems wholly focused on the acquisition of ‘dead languages’.¹⁵⁵ Mercier includes an anecdote, evidencing for the readership the potential loss of talent brought about by the sole focus on languages at school level:

I can personally testify. [...] I spent seven wasted years in the fruitless endeavour to acquire the rudiments of Latin, and I failed egregiously and ignominiously. [...] I left school with the reputation of a dunce and the disheartening conviction that I was an incurable dunce.¹⁵⁶

The use of the term ‘testify’ situates Mercier as a witness in a trial against the education system. His poignant anecdote encourages an emotive response from readers, as he reflects on his vulnerability as a child. This anecdote is a stark contrast to earlier articles with *Science Progress*’s signature anonymous, alarmist, and antagonistic style. On his matriculation into medicine, Mercier ‘cleared the board of every prize and scholarship that was open to competition’.¹⁵⁷ Evidenced in Mercier’s anecdote is a renewed sense of hope for the future of education in Britain.

Mercier guards against the destruction of this renewed sense of hope in the scientific community by claiming that Cd. 9011 will ‘be accused of desiring to oust literary and linguistic studies altogether from the scheme of education that they recommend [...] this will be founded on a charge of encouraging a gross and sordid materialism’.¹⁵⁸ By including this aside, Mercier disarms potential rebukes, the likes of which he reported on for *Science Progress* after *The Times* memorandum was issued in 1916.¹⁵⁹ Mercier concludes with an optimistic tone: ‘It is [...] a most statesmanlike document, broadminded, far-seeing, comprehensive, and persuasive. It ought to have a most powerfully beneficial effect upon the education of our future citizens.’¹⁶⁰ Now that scientists hold the social and

¹⁵⁵ Ibid., p. 102.

¹⁵⁶ Ibid., p. 101.

¹⁵⁷ Ibid., p. 101.

¹⁵⁸ Ibid., p. 101.

¹⁵⁹ For Mercier’s article on negative responses to *The Times* memorandum, see C. A. Mercier, ‘The Anti-Science Manifesto’, *Science Progress*, 11 (41) (July 1916), pp. 140-144.

¹⁶⁰ Ibid., p. 97.

political authority they have been campaigning for with the creation of committees and reports supported by the government, such as the Cd. 9011, *Science Progress* has deescalated their alarmist antagonistic content, in favour of dubbing their fellow scientists as formidable statesmen and political advocates for education.

Further evidence of the denouement of the debate in *Science Progress* is found in the April 1919 article ‘War - A Plea for Scientific Research’: an article written by Ross’s brother, Major-General Charles Ross (1864-1930).¹⁶¹ The six-page article, focusing on how to prevent further wars by examining the history of war in the nineteenth century, is contemplative, thorough, and relaxed in tone. It appears as a review of past events rather than a call to action, standing in stark contrast to his July 1913 *Science Progress* article ‘Scientific National Defence’. He suggests that a thorough examination of the causes of war is needed, since ‘to tinker at the surface is to treat medically a sick man without previously diagnosing his complaint’.¹⁶² He extends this clinical metaphor by writing that through ‘a scientific and exhaustive study of the whole problem [...] a permanent cure be effected.’¹⁶³ Charles Ross then seeks to offer the curative study in the following pages, fashioning himself as the professional physician able to help the ailing patient, rather than demanding action from an inferior position, as in ‘Scientific National Defence’. Striking evidence of the change of tone in *Science Progress* is Charles Ross’s discussion of the way in which Britain conducted its war efforts: ‘it is clear that the British were in no wise responsible for the war, except perhaps indirectly in that they neglected to build up a potential army’.¹⁶⁴ While in his 1913 article, Charles Ross mocked and ridiculed the British public and the British Government for not taking quick action to conscribe all men,

¹⁶¹ Charles Ross, ‘War – A Plea for Scientific Research’, *Science Progress*, 14 (53) (April 1919), 659-665 (p. 659).

¹⁶² *Ibid.*, p. 660.

¹⁶³ *Ibid.*, p. 660.

¹⁶⁴ *Ibid.*, p. 662.

in 1920, the issue is merely an aside in his summarising article. Further, the use of ‘perhaps’ and ‘indirectly’ making the aside seem tentative and unsubstantiated.

In 1913, Charles Ross ended his satirical article with the ‘British citizen’ realising that the voluntary system of army registration would be inadequate and that, in fact, it would take ‘twelve years in which to convert a voluntary system into an efficient modern system’, thereby fuelling terror in the readership of *Science Progress*.¹⁶⁵ In contrast, his 1920 article concludes that:

it is only a sense of absolute security as between nations, the eradication of ambition, the existence of comfort and prosperity amongst all sorts of conditions of men, which can give immunity from war. [...] It is the fighting spirit, the “will for war”, which must be eradicated or controlled.¹⁶⁶

Here, Charles Ross emphasises attributes needed to secure continued peace. He identifies the eradication of the ‘fighting spirit’, rather than a consistent supply of people for the military forces, as the cure for the world’s ills. His tone is measured, certain, and confident, rather than condescending and alarmist. This article, as with other articles in this volume, deals with contemporaneous social and political issues, indicating a feeling of success: scientists have been triumphant in their opportunistic move to advance their field and their professional standing during the war. These two articles evidence a security in scientists’ professional, political, and social status, which was not evident in previous volumes.

Conclusion

Gibson and Nye comment that ‘in *Science Progress* Ross found a sounding board for opinions which he used to the full’.¹⁶⁷ Ross used *Science Progress* as an outlet for himself

¹⁶⁵ Charles Ross, ‘Scientific National Defence’, *Science Progress*, 8 (29) (July 1913), 122-132 (p. 132).

¹⁶⁶ Charles Ross, ‘War – A Plea for Scientific Research’, p. 665.

¹⁶⁷ Edwin Nye and Mary Gibson, *Ronald Ross: Malariaologist and Polymath: A Biography* (London: Springer, 1997) p. 210.

and his colleagues to state grievances against the government and the public, who, they believed, fostered a society where scientists were not socially, politically, or professionally well-regarded. By creating and curating that outlet, Ross fashioned himself as the spokesperson for a scientific revolution. He developed and led a public ideology for scientific workers in *Science Progress*: a call for scientists to recognise themselves as professional men and women integral to the safety and prosperity of all Britons. Ross and his writers, from 1913 to 1919, utilised a cache of tropes to develop a polemic for scientists during the Neglect-of-Science debate: the ‘mass of mankind’; the corrupted tradesperson; and the intoxicated public, characterised the British public as ignorant and inept, a group in dire need of assistance. In opposition to this ineptitude, *Science Progress* successfully refashions the scientist, replacing the obsolete image of the knight of science with a heroic collective of soldier scientists to highlight scientists’ utility during wartime. After the publication of the Cd. 9011 then, Ross relaxes the wartime rhetoric found in *Science Progress*, leaving space in the magazine for individual voices to return to the ‘Notes’ section to congratulate themselves and their professional brethren on the successful advancement of science during the First World War.

In *Science Progress*, Ross wished to self-fashion as a spokesperson for science who could correct the failings of contemporaneous political, military, educational, and religious systems with the application of scientific reasoning. Turner writes that scientists, such as Ross, ‘intended [...] to lead a new political influence for scientists in the period of peace that would follow the conflict’.¹⁶⁸ With the change of tone in *Science Progress* post-1916, evident in articles like Mercier’s and Charles Ross’s, it is obvious that advancement for science was within grasp. Perhaps this would have been the ideal moment for Ross to return to what Taylor-Brown described as the use of the knights of science rhetoric: to assert the ‘glorification of the individual’ and to develop a narrative for science where

¹⁶⁸ Turner, ‘Public Science’, p. 604.

‘memorable protagonists [...] formed the public face of the discipline.’¹⁶⁹ Malcom Watson writes that post-war Ross’s ‘health was not good’ (years later Ross had a stroke that left him ‘paralysed on his left side’), which is perhaps why he relinquished sole editorial control in 1918.¹⁷⁰ Perhaps also this reorientation in tone post-First World War, proved a chance for Ross to write about ‘the glorification of the individual’ in another format. Indeed, Ross’s novel, *The Revels of Orsera* (1920), examined in Chapter Two, can be read as an allegory for the mistreatment of the virtuous and selfless hero, an identity that Ross harnessed for himself, and Ross’s *Memoirs* (1923) offers an extensive ‘telling of the self’, as seen in Chapter One.¹⁷¹ In his obituary for Ross in *Science Progress*, Watson includes the section ‘The Man Misunderstood’. He writes that Ross ‘was accused of being wanting in modesty and reserve, egotistic, asking for praise and money, and to the outside world he often appeared a cynic’.¹⁷² Watson refutes this characterisation of Ross, explaining that he was a pioneer and devoted advocate of the rights of all scientists: ‘Such critics do not understand a Great Man as Carlyle did. [...] A candid ferocity, if the case calls for it, is in him; he does not mince matters!’¹⁷³ Watson continues ‘when Ross said “Pay” he was fighting not primarily for himself - he was fighting for others and for good government’.¹⁷⁴ This last memorial to Ross in *Science Progress* confirms his successful development and leadership of the polemic for science during the Neglect-of-Science debate: it evidences his wartime pivot from individual glorification of scientists to a broader branding of the profession as an integral part of a stable and secure Britain. Further, it stresses Ross’s instrumental role in the development and success of the Neglect-of-Science debate,

¹⁶⁹ Taylor-Brown, *Miasmas*, p. 142.

¹⁷⁰ Malcolm Watson, ‘Ronald Ross 1857-1932’, *Science Progress*, 27 (107) (January 1933), 377-392 (p. 383).

¹⁷¹ Rita Charon, *Narrative Medicine: Honouring the Stories of Illness* (Oxford: Oxford University Press, 2008), p. 73.

¹⁷² Watson, p. 387.

¹⁷³ *Ibid.*, p. 387.

¹⁷⁴ *Ibid.*, p. 387.

highlighting his heroic positioning as spokesperson for science and for the rights of the scientist.

CONCLUSION

The only manner in which science can be taught to men is by way of narratives of events which, though they may not actually have occurred as described, are occurring over and over again in history and in our lives [...]. [T]he constructions of the men of science [...] have to be idealised, partly for brevity and partly for fixing the attention of the public.¹

The above quotation evidences Ross's desire for himself, and for all scientists, to effectively narrativise science for the public through careful self-fashioning. My thesis began by asking: how did Ronald Ross self-fashion his medico-scientific researcher persona through his underexplored literary corpus? Through an examination of Ross's published literary works and the periodical, *Science Progress*, under his editorship, this thesis has uncovered a dynamic constellation of literary and narrative modes employed by Ross in his writings to cultivate his self-fashioning.

Chapter One interrogated Ross's reluctance to adhere to previously accepted forms of narrativizing science in his *Memoirs*. He rejected both the 'dying-to-know' narrative, as examined by George Levine in contemporaneous scientific autobiographies, and the story of the 'fortuitous scientific accident', coined by Rebecca Herzig.² Neither would Ross imply that the moral development of scientists is a consistent result of or a prerequisite for scientific research, as Anne DeWitt suggests of other scientists.³ In *Memoirs*, outmoded Arthurian imagery, identified by Emilie Taylor-Brown as an aid to the professionalisation of parasitologists, is cast aside.⁴ Instead, Ross purposefully infuses *Memoirs* with a 'telling of the self', revealing the hardship that accompanies medico-scientific research, and

¹ R. R., 'Homer, Dante, Shakespeare, and Cervantes', *Science Progress*, 11 (41) (July 1916), 137-140 (p. 137).

² George Levine, *Dying to Know: Scientific Epistemology and Narrative in Victorian England* (Chicago: University of Chicago Press, 2010), p. 2; Rebecca Herzig, *Suffering for Science: Reason and Sacrifice in Modern America* (Rutgers University Press, 2005), p. 7.

³ Anne DeWitt, *Moral Authority, Men of Science, and the Victorian Novel* (Cambridge, Cambridge University Press, 2013), p. 7.

⁴ Emilie Taylor Brown, *Miasmas, Mosquitoes, and Microscopes: Parasitology and the British Literary Imagination* (PhD Thesis, Warwick University, 2016), p. 37.

fashioning himself as a complex suffering hero.⁵ Ross utilises a melange of imagery to develop this distinct identity. By penning a subjective and emotional ‘dying-to-know’ narrative, Ross self-fashioned in *Memoirs* as a second-generation scientific naturalist, a pioneering medico-scientific researcher, a hero of the British Empire, and an advocate for the suffering scientist, worthy of religious devotion. By examining *Memoirs* first, this thesis showcased how Ross wished to self-fashion his multifarious pursuits near the end of his life. By structuring the thesis in this way, I was subsequently able to examine Ross’s fictive works with this self-fashioning in mind. The question then became: how did Ross’s self-fashioning through his fictive literary output align with or diverge from his most overt work of self-fashioning?

An interrogation of Ross’s novels evidences his fervent belief that all good art held a didactic intention: ‘not art for art’s sake, nor science for the sake of science, but both for humanity’.⁶ To Ross then, fictive output was as important for the ‘improvement of the race’ as scientific discovery. As mentioned previously, the first generation of scientific naturalists, led by Thomas Henry Huxley, used their wide-ranging interests to ‘carry their message of the benefits of scientific endeavour’ to every strata of society.⁷ Ross’s first two romances promote both the general ‘scientific endeavour’ and tropical medicine more specifically, branding Ross a second-generation scientific naturalist early in his career. Ross’s first two novels dramatise the importance of medical and scientific knowledge and the relevance of that knowledge to British health and the pursuit of imperial glory. While recent scholarship by Howell has firmly established the importance of Ross’s medico-scientific discoveries for contemporaneous literature, Chapter Two of this thesis indicates the cyclical nature of influence between Ross both as a medico-scientific researcher and as

⁵ Rita Charon, *Narrative Medicine: Honouring the Stories of Illness* (Oxford: Oxford University Press, 2008), p. 73.

⁶ London, London School of Hygiene and Tropical Medicine. The Ross Collection. Ross/131/14/20. ‘Science and Poetry’. 4 June 1920.

⁷ Frank M. Turner, ‘Victorian Scientific Naturalism and Thomas Carlyle’, *Victorian Studies*, 18 (3) (March 1975), 356-375 (p. 325).

a romancer and these authors. His wish to position himself amongst authors of scientific romance, alongside his explicit didactic intentions in these two novels, enabled him to self-fashion as a romancer harnessing his medico-scientific and literary knowledge to educate the public via the mass-market appeal of the romance.

The Revels of Orsera marks a change in Ross's self-fashioning through his novels. His final novel functions as an allegorical tale centred around the neglect of the virtuous hero, cast out by society and punished for their self-sacrifice. The narrative closely aligns with Ross's distinct research narrative in *Memoirs*. Much like *Memoirs*, *The Revels of Orsera* attempts to teach the readership to understand their moral obligations to the virtuous, perhaps in the hope that the lesson might alter society's treatment of the neglected medico-scientific researcher. Through his literary self-fashioning in his novels, it is then clear to see how engrained the notion of heroism through medico-scientific work was for Ross and how supposed lack of recognition altered his self-fashioning as medico-scientific imperial hero in later life.

Ross uses poetry as a tool to connect with polymaths past and present: Ross's lecture 'Science and Poetry' proves his self-fashioning in relation to past figures from William Shakespeare to Humphrey Davy, while archived correspondence evidences his positioning as physician-poet alongside Silas Weir Mitchell, William Osler, and Arthur Conan Doyle.⁸ Poetry was the format through which Ross revealed the progression of the devoted young scientist to the heroic coloniser physician and finally to the neglected and bitter public intellectual, highlighting the development of his self-fashioning. Ross's poetic corpus evidences the rise of scientific naturalists as arbiters of truth; leaders of a new 'pure Christianity'.⁹ Ross then highlights his fear of degeneration, decay, and reverse colonisation in the tropics, which the heroic coloniser physician poetic voice struggles to

⁸ London, London School of Hygiene and Tropical Medicine. The Ross Collection. Ross/131/14/20. 'Science and Poetry'. 4 June 1920.

⁹ Matthew Stanley, *Huxley's Church and Maxwell's Demon: Science to Naturalistic Science* (Chicago: University of Chicago Press, 2014), p. 26.

overcome. The poetry he writes after his malaria discovery evidences Ross's establishment as a frustrated public intellectual, as he opines on British life. While *Memoirs* depicts Ross's most explicit act of self-fashioning towards the end of his life, his poetic corpus evidences the arc of his self-fashioning from 1883 to 1931 not through retrospective analysis, but as contemporaneous thoughts written by 'the wayside'.¹⁰

Chapter Four highlighted Ross's editorship of *Science Progress* during the Neglect-of-Science debate as an opportunity for Ross to self-fashion as a spokesperson for the advancement of science, a man capable of using scientific method to solve issues political, military, educational, or religious. The literary form of the popular science magazine was seen by Ross as a chance to self-fashion as a potential leader in a British post-war technocracy. This chapter analysed *Science Progress* from 1913, just before Ross took up his post as editor, to 1920, when Ross relinquished sole editorship, charting Ross's establishment of scientists as impoverished figures, before seizing on the war effort as a chance to lead in the professional advancement of scientists. To accomplish this professionalisation, *Science Progress* discarded the outmoded figure of the 'knight of science' in favour of the scientific soldier, a figure he claimed was necessary for protecting Britain during the First World War.¹¹ This chapter then provided the first sustained analysis of the 'most bitter and exaggerated' rhetoric used during the Neglect-of-Science debate, and evidences Ross's positioning in relation to that rhetoric as leader of the burgeoning profession of science, and potential leader of a technocratic Britain.¹² It is clear how Ross's self-fashioning in *Science Progress* developed into the public persona he presented in *Memoirs*. *Science Progress* evidences his earliest and most explicit rejection of the romanticism of scientific research implied through 'knights of science' rhetoric,

¹⁰ Ronald Ross, *Philosophies* (London: John Murray, 1923), p. i.

¹¹ Emilie Taylor Brown, '(Re)Constructing the Knights of Science: Parasitologists and their Literary Imaginations', *Journal of Literature and Science*, 7 (2) (2014), 62-79 (p. 62).

¹² Frank Turner, *Contesting Cultural Authority in Victorian Intellectual Life* (Cambridge: Cambridge University Press, 1993), p. 222.

which he later rejected again in *Memoirs*. Similarly, it is in *Science Progress* that he demands that scientists present research narratives that will entice the public, presumably why he then went on to pen *Memoirs*, explicitly addressing it to the public.

Each of my chapters examined the trajectory of Ross's self-fashioning through one of his published literary forms. Each form of literary output evidences Ross's desire to harness his malaria discovery and utilise it as a vehicle for social and professional advancement. Ross utilises his literary output to self-fashion as an imperial martyr; an expert educator; a colonial hero; and a potential technocratic leader. These identities indicate his understanding of literary work as the key to his professional identity as the 'Scientist as Hero' and public intellectual and authority figure for the British Empire. His scientific autobiography allowed a telling of the self: an opportunity to share his research narrative and self-fashion as a suffering medico-scientific researcher of the British Empire. All three of his romances evidence his self-fashioning as an educator, aiming to harness his knowledge of literature and science to teach his readership about the necessity of research for the well-being of the colonies, the metropole, and the medico-scientific researcher. His poetic corpus provides a space for immediate documentation of the budding scientist, the coloniser physician, and the embittered public intellectual. *Science Progress* asserts Ross's self-fashioning as a leader: Ross harnesses his cultural currency as a successful medico-scientific researcher to self-fashion as a viable authority figure within and beyond the realms of science.

Refashioning: Ross's Cultural Memorialisation

In terms of how my examination of Ross's self-fashioning through his published literary works might be extended, some of the research questions that could arise include: what forms does Ross's cultural memorialisation take? To what extent does his posthumous

memorialisation accord with this self-fashioning? What source materials are used by persons interested in refashioning Ross? In what way do these persons interpret their chosen material? These kinds of questions relating to reception history are already proving fruitful in relation to other figures, as Tom Mole's seminal text *What Victorians Made of Romanticism: Material Artifacts, Cultural Practices, and Reception History* (2017) confirms. Indeed, more specifically, some research on the cultural memorialisation of individual Victorian scientists, particularly Darwin, has also been conducted.¹³ Further, a book-length study on the Victorian explorer, Christian missionary, and physician David Livingstone (1813-1873) also evidences the productivity of such questions: Justin Livingstone establishes *Missionary Travels and Researches in South Africa* (1857) as 'a vehicle of self-projection and impression management', which he explains enabled a huge range 'of posthumous interpretations [...] that made him a figure so ripe for reconstruction'.¹⁴ In a similar vein to these works, this section will briefly touch on these questions of reception history, highlighting a few of the myriad works that might be used to examine Ross's recent refashioning.¹⁵

In 1983, The Keynes Press was established by the British Medical Association publishing group 'to produce finely designed and printed limited editions of medical classics'.¹⁶ In 1988, The Keynes Press published three hundred beautifully ornate copies of

¹³ For research on Darwin's cultural memorialisation, see Peter C. Kjaergaard, 'The Darwin Enterprise: From Scientific Icon to Global Product', *History of Science*, 48 (1), (1 March 2010), pp. 105-122; Carl Francis Fisher, *Early Darwinian Commemoration, 1882-1914*. (PhD Thesis, University of Cambridge, 2017).

¹⁴ Justin Livingstone, *Livingstone's "lives": A Metabiography of a Victorian Icon* (Manchester: Manchester University Press, 2014), p. 20., p. 59.

¹⁵ While this section focuses on Ross's recent refashioning, there is also scope for an examination of his early refashioning. For example, six years before his death American microbiologist Paul de Kruif (1890-1971) published *Microbe Hunters* (1926), which, in part, is a dramatic retelling of Ross's research narrative and subsequent fight with Giovanni Battista Grassi. Ross was disgusted by de Kruif's book and threatened legal action, so when the book was published in England the chapter on Ross was removed. Eli Chernin provides some information on the disagreement between de Kruif and Ross in his article 'Paul de Kruif's *Microbe Hunters* and an Outraged Ronald Ross'. Shortly after Ross's death, James Oram Dobson's (1891-1965) children's book *Ronald Ross, Dragon Slayer* (1934) was published. Correspondence held in The John Murray Archive suggests that this was not the only publication providing an early posthumous account of Ross's life. An examination of Ross's refashioning for children's literature then might also prove a fruitful extension of this research.

¹⁶ Anonymous, 'Christmas Books: The Keynes Press: a new venture', *British Medical Journal*, (287) (3 December 1983), 1685 (p. 1685).

The Great Malaria Problem and its Solution: From the Memoirs of Ronald Ross. By republishing Ross's *Memoirs*, they highlight the continued importance of his writings to medics' professional identity. As mentioned in Chapter One, *Memoirs* is split into three sections: 'Part One: India', 'Part Two: The Problem', and 'Part Three: The Fight for Life'. The contents page of *The Great Malaria Problem and its Solution* shows that only 'Part Two: The Problem' is included in this reprint. This section explores the reasoning behind editor Leonard Jan Bruce-Chwatt's (1907-1989) omission of two thirds of *Memoirs* to establish the legacy of Ross's distinct self-fashioning as a suffering medico-scientific hero.

At the time of publication, Bruce-Chwatt had retired from his distinguished role as Professor of Tropical Hygiene and Director of the Ross Institute at the LSHTM.¹⁷ His self-fashioning as 'a successor to Ross' is clear not only in his position at the LSHTM, but also in the way he introduces *The Great Malaria Problem and its Solution*.¹⁸ Bruce-Chwatt echoes Ross's dramatic style, explaining that '[t]he first parting of the clouds' regarding malaria was when Laveran discovered the malaria parasite.¹⁹ Later, he notes that 'Manson [...] now enters the story'.²⁰ He identifies Ross as a '*dramatis persona* [...], one of the most impressive and colourful individuals in the history of tropical medicine.'²¹ Bruce-Chwatt explains that 'Part Two: The Problem' has been chosen for republication because it recounts the 'full story of the heroic period in Ross's life': Part Two chiefly presents 'the origin of a scientific concept through the fumbling and thorny path of investigation to the climax of an intense human drama and final triumph.'²² There can be no doubt that this comment is inspired by Ross's preface to *Memoirs*, where he writes that 'many discoveries

¹⁷ L. G. Goodwin, 'Leonard Jan Bruce-Chwatt' in *Inspiring Physicians Volume IX 1989-1993* URL: <https://history.rcplondon.ac.uk/inspiring-physicians/leonard-jan-bruce-chwatt> [Accessed: 07 May 2020].

¹⁸ Eli Chernin, 'Ronald Ross, The great malaria problem and its solution. From the Memoirs of Ronald Ross, with an introduction by L. J. Bruce-Chwatt, London, The Keynes Press, British Medical Association, 1988 8vo, pp. xxii, 236, illus., £45.00, £52.00/\$73.00 abroad.', *Medical History*, 32 (4) (October 1988), 468-469 (p. 468).

¹⁹ Leonard Jan Bruce-Chwatt, 'Introduction L. J. Bruce Chwatt' in *The Great Malaria Problem and its Solution: from the Memoirs of Ronald Ross* (London: The Keynes Press, 1988), xi-xv (p. xi).

²⁰ *Ibid.*, p. xii.

²¹ *Ibid.*, p. xiii.

²² *Ibid.*, p. xiv.

have really been the climax of an intense drama, full of hopes and despairs [...] and a final triumph'.²³ Confusingly then, while removing large chunks of Ross's telling of the self, Bruce-Chwatt simultaneously emphasises that this republication is a gripping narrative about malaria discovery, rather than merely a 'record of results'. While it is not described as such, it seems clear that Bruce-Chwatt's six-page 'pithy' introduction works as a substitute for Part One and Part Three, dramatically reducing Ross's distinct narrative of suffering for science.²⁴

Bruce-Chwatt explains that, by only republishing Part Two of *Memoirs*, he seeks to highlight the 'heroic' self-fashioning of Ross: according to him, Part Three is simply the 'scientifically less important' and 'less interesting' aspect of Ross's life post-discovery.²⁵ Bruce-Chwatt explicitly seeks to disregard Ross's early life of 'self-imposed duty' and his later fight for public recognition and scientific priority. Ross's successor only wants Ross to be remembered as 'The Hero as Scientist'.²⁶ This text, according to the introduction, will not be 'dominated', as the original text was, by 'Ross's intemperate attack' on Grassi.²⁷

However, potentially in an attempt to avoid accusations of not recognising Ross's complex self-fashioning, Bruce-Chwatt acknowledges that Ross 'had all the qualities of a genius and also certain not uncommon faults', 'his writing [shows] much self assertion, if not vanity', he had a 'pugnacious temperament', which led to him being 'the target of criticism'.²⁸ Bruce-Chwatt stresses that he fully understands the complexity of Ross's later public life. Despite this understanding, Bruce-Chwatt immediately sweeps these accusations away by saying that only the 'the outside world' imagined Ross as 'the dour adversary, the challenger, the castigator': while those within the scientific community

²³ Ibid., p. xiv.

²⁴ Chernin, 'Ronald Ross, The great malaria problem and its solution', p. 468.

²⁵ Bruce-Chwatt, p. xv.

²⁶ Malcolm Watson, 'Ronald Ross Commemorative Meeting', *Proceedings of the Fourth International Congresses on Tropical Medicine and Malaria*, 1 (May 1948), p. 61.

²⁷ Bruce-Chwatt, p. xv.

²⁸ Ibid., p. xv.

‘praised his kindness and his defence of just causes’.²⁹ These issues that the ‘outside world’ had with Ross were merely because he was a ‘fullblooded and frank man of genius’, ‘a great man’, an ‘unconquerable spirit’.³⁰ This modification of Ross’s self-fashioning entirely contradicts what Ross says in his address to readers of *Memoirs*. As mentioned above, Ross addresses *Memoirs* to the public, after unsuccessful appeals to the medical community, the scientific community, and the British Government, because the public are his last hope for acknowledgement.

Bruce-Chwatt’s refashioning of Ross then aims to disregard what Ross saw as the failings of both the medical and scientific community. In his introduction to partial republication of *Memoirs*, Bruce-Chwatt works to reframe Ross’s dismay later in life as a problem he had with public misunderstanding, rather than professional disregard. Presumably by doing this, Bruce-Chwatt aims to ingratiate Ross to the assumed readership of this republication: medics interested in the proud history of their field as told by ‘medical classics’. The Keyne’s Press republication then evidences that Ross is not merely a historical figure of interest, but a figure whose public persona is still altering within the medical community.

Ross’s memorialisation is not siloed in the medical community. From 2011 to 2015, *Science Progress*, a journal still thriving today, began to publish articles entitled ‘One hundred years ago in *Science Progress*...’ where they reprinted old articles. Of the fifteen articles entitled ‘One hundred years ago in *Science Progress*...’, six articles either were written by Ross or contain anonymous notes from *Science Progress* on the Neglect-of-Science debate published during Ross’s editorship.³¹ These condensed articles offer an

²⁹ Ibid., pp. xv-xvi.

³⁰ Ibid., p. xvi.

³¹ Anonymous, ‘One Hundred years ago in *Science Progress*... Woman’s Place in Nature’, *Science Progress*, 96 (3), (2013), pp. 318; Anonymous, ‘One Hundred years ago in *Science Progress*... The Business Affairs of Science’, *Science Progress*, 96 (4), (2013), pp. 429; Anonymous, ‘One Hundred years ago in *Science Progress*... Science and The State: A Programme’, *Science Progress*, 98 (1), (2015), pp. 98-102; Anonymous, ‘One Hundred years ago in *Science Progress*... War Inventions’, *Science Progress*, 98 (4), (2015), p. 427; Anonymous, ‘One Hundred years ago in *Science Progress*... A Letter from the Front’,

opportunity for *Science Progress* to gesture to its well-established history, highlighting to modern-day scientists the appeal of submitting articles to the magazine. Indeed, under some of the articles *Science Progress* placed the short advertisement: ‘Write for *Science Progress* and share your Passion for Science!’³² The advertisement asserts that ‘[s]ince *Science Progress* started, more than 100 years ago, science has advanced in every area, and continues to do so at an ever increasing pace’.³³ This comment claims that the magazine was and is still an integral part of the advancement of science. By including articles showcasing Ross’s campaigning voice in the Neglect-of-Science debate then, *Science Progress* implies that, even one-hundred years on, Ross’s editorial control, using *Science Progress* as a method of advancing the cultural cachet of scientists, is key to the magazine’s modern-day appeal.

Evidence of Ross’s memorialisation in science can also be seen when looking further afield than *Science Progress*. Ross’s name, his medico-scientific research, and his literature are frequently invoked more broadly in scientific works today, evidencing the consistency with which his presence is felt within the scientific community. A cell in the gut of the mosquito has been coined ‘Ross cell’ in recognition of his malaria research.³⁴ The article ‘Spreading the seeds of million-murdering death: metamorphoses of malaria in the mosquito’ in *Trends in Parasitology*, uses Ross’s term from ‘In Exile’ (million-murdering death) to describe the mosquito. This article is not an outlier: many scientific articles both within parasitology and further afield use this phrase, evidencing how Ross’s terminology has become shorthand for conceptualising tropical disease and mosquitoes.³⁵

Science Progress, 98 (4), (2015), p. 428; Anonymous, ‘One Hundred years ago in *Science Progress*... Government and Chemistry’, *Science Progress*, 98 (4), (2015), p. 428.

³² Anonymous, ‘Write for *Science Progress* and Share your Passion for Science!’, *Science Progress*, 97 (2), (2014), pp. 196 (p. 196).

³³ *Ibid.*, p. 196.

³⁴ Mohammed Shahabuddin, ‘Do Plasmodium ookinetes invade a specific cell type in the mosquito midgut?’, *Trends in Parasitology*, 18 (4) (April 2002), pp. 157-161.

³⁵ For some of the recent scientific articles that reference Ross’s poetry, see L. A. Baton and L. C. Ranford-Cartwright ‘Spreading the seeds of million-murdering death: metamorphoses of malaria in the mosquito’, *Trends in Parasitology*, 21 (12) (2005), pp. 573-580; Matthew P. Scott, ‘Developmental genomics of the most dangerous animal’, *PNAS*, 104 (29) (July 2007), pp. 283; R. D. Isokpehi, ‘Data Mining of Malaria

Further than this, environmental scientist Sam Illingworth recently published *A Sonnet to Science: Scientists and their Poetry* (2019). The text, which includes a chapter on Ross in addition to chapters on figures such as Humphrey Davy and Ada Lovelace (1815-1852), claims to ‘investigate which [...] scientists wrote poetry, and their motivation for doing so’ as a method of convincing ‘current and future generations of scientists and poets that these worlds are not mutually exclusive, but rather complementary in nature’.³⁶ While his poetry may be underexplored by literary scholars, it garners regular attention from modern-day scientists who make use of Ross’s poetical phrases in their works. Illingworth has gone further by presenting Ross as a model interdisciplinarian whose understanding of the symbiotic relationship between science and literature can and should be harnessed to inspire present and future generations of scientists.

More broadly, Ross’s cultural memorialisation is evident throughout the world, particularly, although not exclusively, in India and in England. In Secunderabad, the building in which Ross conducted his malarial research has been deemed a heritage site. In Calcutta, there is both a Sir Ronald Ross Sarani and Sir Ronald Ross Road. The Sir Ronald Ross Institute of Tropical and Communicable Diseases, Hyderabad was named in Ross’s honour and the Christian Medical College in Ludhiana, Punjab, has named its student residence the Ross Hostel: hostel residents call themselves ‘Rossians’.³⁷ In 2014, a teaching candidate in Calcutta narrowly missed out on qualification because of inaccurate knowledge of Ross’s discovery. The report from *The Telegraph*, India, explains that ‘many Calcuttans would have tackled this question in school, college, a competitive exam or a

Parasite Gene Express for Possible Translational Research’, *Methods of Microarray Data Analysis*, (5) (2007), pp.1-10; S. Prokurat, ‘Economic outcomes of Malaria in South East Asia’, *Opportunities for cooperation between Europe and Asia* (November 2015), pp. 157-174.

³⁶ Sam Illingworth, *A Sonnet to Science: Scientists and their Poetry* (Manchester: Manchester University Press, 2019), p. 10.

³⁷ Jyoti Lal Chowdhury, ‘Laboc Hospital – A Nobel Prize Winner’s Workplace’ in *Eastern Panorama* (September 2010) URL: <http://www.easternpanorama.in/index.php/cover-story/61-2010/september/1123-laboc-hospital-a-nobel-prize-winners-workplace> [Accessed: 6 April 2020].

quiz'.³⁸ When the case was taken to a high court trial, the candidate's lawyer began by saying: "It is known to all of us that the great scientist Sir Ronald Ross had discovered that mosquitoes are carriers of the malaria parasite".³⁹ The impact of Ross and the import of his cultural memorialisation in India then cannot be underestimated.

In England, at the LSHTM, Ross's name is carved in stone on the frieze alongside eminent scientists like Edward Jenner, Louis Pasteur, Joseph Lister (1827-1912), Patrick Manson, and Charles Alphonse Laveran. The enquiry desk at the School's Archives was once used by Ross at the Ross Institute: there is a gold plaque nailed to the desk commemorating its past owner. In 2003, for the Ross Archive, the LSHTM was 'awarded funding from the Wellcome Trust Research Resources in Medical History initiative to preserve, re-catalogue and increase accessibility to these important collections'.⁴⁰ In Wandsworth, there is Ronald Ross Primary School, which boasts a crest featuring a mosquito and a book: their website highlights one child's retelling of Ross's research narrative.⁴¹ In 2012, at the opening of The Ronald Ross Building at the University of Liverpool, Sir Mark Walport, Director of the Institute of Infection and Global Health, described it as a 'fitting tribute' to Ross and his scientific work: Ross's grandson, David Ross, opened the facility.⁴² The University of Surrey named a road in their campus Ronald Ross Road, which intersects with Alexander Fleming Road, named after the discoverer of penicillin. In 2016, then Chancellor of the Exchequer, George Osborne, and billionaire philanthropist, Bill Gates, 'joined forces' to create a one-billion-pound fund to eradicate

³⁸ Our Bureau, 'Malaria Poser Stings in Court – Teacher Candidate Who Missed Qualification by a Mark Rakes Up Ross Question', *Telegraph, India* (September 2014) URL: <https://www.telegraphindia.com/states/west-bengal/malaria-poser-stings-in-court-teacher-candidate-who-missed-qualification-by-a-mark-rakes-up-ross-question/cid/1289939> [Accessed: 6 April 2020].

³⁹ Ibid.

⁴⁰ LSHTM Archives, 'Sir Ronald Ross Collections' URL: <https://www.lshtm.ac.uk/research/library-archives-service/archives/sir-ronald-ross-collections> [Accessed: 7 April 2020].

⁴¹ Ronald Ross Primary School, 'Ronald Ross' URL: <https://www.ronaldross.org.uk/Our-School/Ronald-Ross/> [Accessed: 6 April 2020].

⁴² University of Liverpool News, 'Opening of The Ronald Ross Building' URL: <https://news.liverpool.ac.uk/2012/10/10/gallery-opening-of-the-ronald-ross-building/> [Accessed: 6 April 2020].

malaria, which they announced at the Liverpool School of Tropical Medicine (LSTM) and dubbed ‘The Ross Fund’.⁴³ Ross’s cultural memorialisation then is embedded into the global landscape. Having briefly explored Ross’s posthumous refashioning and cultural memorialisation, the question then arises: who is responding to this cultural memorialisation? How are they responding to it, and why?

***The Calcutta Chromosome* (1995): A Postcolonial Response to Ross’s Cultural Memorialisation**

Describing the refashioning of Ross’s near-contemporary, Oscar Wilde, Sandra Mayer explains that:

fictional resurrections of historical authors have been shown to be both expressions of, and revisionist commentaries on, the cultural impact of canonical writers and their work; they contribute to the posthumous reputation of their subjects, consolidating and, at the same time, setting out to revise [...] their position within cultural memory.⁴⁴

In *The Calcutta Chromosome* (1995), Amitav Ghosh encourages readers to question the ‘cultural impact’ of Ross’s research narrative, his self-fashioning, and his cultural memorialisation. The novel acts as revisionist commentary on Ross’s life up until the point of his discovery. I have selected Ghosh’s response to Ross’s self-fashioning and subsequent memorialisation for particular attention as it highlights issues which this thesis addresses: it unravels Ross’s ‘narrative of events’, reveals to readers that Ross consciously self-fashioned his public persona, and encourages readers to question the agenda behind the self-fashioning of colonial medico-scientific researchers. This final section therefore

⁴³ GOV.UK, ‘Chancellor George Osborne and Bill Gates to join forces to end malaria’ (November 2015) URL: <https://www.gov.uk/government/news/chancellor-george-osborne-and-bill-gates-to-join-forces-to-end-malaria> [Accessed: 6 April 2020]. LSTM, ‘LSTM hosts the formal announcement of the Ross Fund’ (January 2016) URL: <https://www.lstmed.ac.uk/news-events/news/lstm-hosts-the-formal-announcement-of-the-ross-fund> [Accessed: 6 April 2020].

⁴⁴ Sandra Mayer, ‘The Art of Creating a Great Sensation: Oscar Wilde (1854-1900)’, *Celebrity Authorship and Afterlives in English and American Literature* ed. By Gaston Franssen and Rick Honings (London: Palgrave Macmillan, 2016), 111-132 (p. 112-113).

seeks to provide a brief interrogation of Ghosh's response to Ross's self-fashioning and cultural memorialisation through his novel *The Calcutta Chromosome*.

Within this complex postcolonial science-fiction mystery, Ghosh develops a posthumous refashioning of Ross, responding to his cultural memorialisation. The novel follows Antar, a worker for the International Water Council, attempting to find his missing colleague, Murugan, who has left for Calcutta pursuing his conspiracy theory about Ross's research. Murugan believes that, far from conducting his malaria research alone, Ross was in fact a mere cog in the wheel of an immortal Indian spiritualist group, who used Ross to reveal malarial transmission to the wider population. The importance of this novel to a postcolonial critique on Western narratives of scientific discovery, in particular the absence of colonised peoples within these narratives, has already been established by Sanjit Mishra and Nagendra Kumarl, Diane M. Nelson, James H. Thrall, Alessandro Vescovi, and Jessica Howell.⁴⁵ Howell explains that Ghosh's novel 'subverts colonial biopolitics by creating a counter-science that gives agency to subaltern characters previously ignored by history.'⁴⁶ Discussing the importance of postcolonial narratives for reinterpreting what is human, Nelson argues that, for Ghosh, the tropics feature as 'the hot, fertile, colonial spaces in which the "human" is hypothesised, tested, and re-mapped'.⁴⁷ Nelson describes *The Calcutta Chromosome* as 'social science fiction', which 'may itself be a tropical laboratory where one might dissect and examine the labour of other colonial labs and produce new ways of figuring the human.'⁴⁸ Nelson's methodology may be applied in reading Ghosh's

⁴⁵ Sanjit Mishra and Nagendra Kumarl, 'Shaking the Roots of Western Science in Amitav Ghosh's *The Calcutta Chromosome*', *Asiatic*, 5 (1) (June 2011), pp. 78-85; Diane M. Nelson, 'A Social Science Fiction of Fevers, Delirium and Discovery: "The Calcutta Chromosome", the Colonial Laboratory, and the Postcolonial New Human', *Science Fiction Studies*, 30 (2) (July 2003), pp. 246-266; James Thrall, 'Postcolonial Science Fiction?: Science, Religion and the Transformation of Genre in Amitav Ghosh's *The Calcutta Chromosome*', *Literature and Theology*, 23 (3) (September 2009), pp. 289-302; Alessandro Vescovi, 'Emplotting the Postcolonial: Epistemology and Narratology in Amitav Ghosh's *The Calcutta Chromosome*', *ariel: A Review of International English Literature*, 48 (1) (January 2017), pp. 37-69; Jessica Howell, *Malaria and Victorian Fictions of Empire* (Cambridge: Cambridge University Press, 2019) pp. 184-191.

⁴⁶ Howell, *Malaria and Victorian Fictions of Empire*, p. 186.

⁴⁷ Diane M. Nelson, p. 247.

⁴⁸ *Ibid.*, p. 247.

novel as a site for the dissection, examination, and resurrection of Ross's self-fashioning and subsequent memorialisation.

The first mention of Ross in Ghosh's novel is when Murugan is running towards the Presidency General Hospital, Calcutta, searching for 'the memorial to the British Scientist Ronald Ross' during monsoon rains.⁴⁹ Readers immediately ascertain Ross's cultural importance to India. Murugan's desperation to find the memorial site, despite the adverse weather, appears intriguing and indicates the importance of Ross to the protagonist. According to the narrator, Murugan 'had seen pictures of it and knew exactly what to look for':

It was an arch, built into the hospital's perimeter wall [...]. It had a medallion with a portrait and an inscription that said: "In the small laboratory seventy yards to the southeast of this gate Surgeon-Major Ronald Ross I.M.S in 1898 discovered the manner in which malaria is conveyed by mosquitoes".⁵⁰

The fact that Murugan was able to view pictures of the Ross memorial suggests that the site, and by extent the honouree, is well-known and well-liked, emphasising Ross's lasting self-fashioned legacy as a figure worthy of religious-like devotion. The precise detail of the medallion, explaining that Ross conducted his work a mere 'seventy yards to the southeast', implies that visitors may be conducting a pilgrimage to the exact spot where Ross made his discovery. This notion of a pilgrimage to honour Ross and his work resonates with Ross's self-fashioning in *Memoirs* and in his poetry, examined in Chapter One and Chapter Three respectively, as a prophetic figure for the religion of science. This opening encounter with Ross's posthumous public persona then, through his Calcutta memorial, foregrounds Ghosh's colonial refashioning of Ross by first establishing the religious reverence expected at the memorial.

⁴⁹ Ghosh, p. 23.

⁵⁰ Ibid., p. 23.

When Murugan stumbles across the Ross memorial, it is less impressive than expected: ‘suddenly there it was, across the ditch, momentarily spotlighted by the headlights of a passing truck: an arch framing a rusted iron gate.’⁵¹ The prestige of the memorial site has been thoroughly destroyed by its placement in front a watery trench, part of the landscape which Ross endeavoured to rid India of to reduce malaria. Other indicators of unfitting environs for a prestigious memorial site, for example that it was only made visible by the light ‘of a passing truck’, further stresses that the honouree has been forgotten as the site is no longer prominent in the landscape. The notion of the truck headlights spotlighting the memorial site hints at Ghosh’s ridicule of the spotlight which Ross worked hard to place himself in during his lifetime. The ‘arch [...] framing a rusted iron gate’ implies that there is in fact nothing of significance there at all, a foreshadowing of Ghosh’s reattribution of Ross’s research later in the novel. The iron gate, which protects the invisible monument to Ross, being rusted, implies neglect of the site and, by extension, neglect of the self-fashioning Ross created. Murugan then notes the medallion, and identifies

on the left, carved in marble, [...] three verses of Ross’s poem, ‘In Exile’. Murugan ran his eyes over the familiar lines: [...]. Murugan began to laugh. Turning around he spread his arms out and began to declaim, from the same poem, in a deep, gleefully stentorian voice.⁵²

Murugan’s encounter with the memorial site as an opportunity to mock Ross is made clear in this extract. The fact that Murugan knows the next three stanzas of the poem by heart indicates to the reader his dedication to Ross’s story: this moment goes some way to show Murugan’s expertise on Ross. Murugan, during this recital, appears to take on the persona of Ross the ‘Hero as Scientist’. He poses with his arms spread out, taking on Ross’s absolute confidence and joy at the moment of discovery, and adopts a false voice with a

⁵¹ Ibid., p. 41.

⁵² Ibid., p. 41.

booming authoritative tone in order to deliver lines from the poem Ross penned to commemorate his malaria discovery. Ross's self-fashioning as both a successful researcher and poet is undermined in this first encounter with the Ross memorial.

Murugan's telling and retelling of Ross's research narrative throughout the novel offers further opportunities to examine the refashioning of Ross by Ghosh. Before beginning the renarrativisation of Ross's research, Murugan explains to Antar his own research background at Syracuse, describing the history of malaria as 'the great love of his life', which makes him 'as far as the subject of Ronnie Ross goes, [...] the only show in town.'⁵³ While these comments evidence Murugan's expertise, the nonchalant, jocular way in which he presents his credentials as a Ross expert somewhat weaken these points, making it difficult for Antar, and the reader, to believe Murugan. Indeed, Jessica Howell points out that Murugan's

style of speech [...] creates a different relationship to scientific knowledge. He uses slang, bawdy humour, and sarcasm and often breaks off mid-sentence. These verbal markers highlight the gaps in official versions of colonial history. Also, whereas Ronald Ross wrote all the details down of his experiments for posterity, Murugan's own story is made up of wilful breaks and unresolved suggestions.⁵⁴

Murugan also mingles different sporting metaphors to describe Ross's research to Antar, saying that '[Ross] kicked off in the summer of 1895 [...] and ran the last few yards in Calcutta in the summer of 1898'.⁵⁵ The use of a football metaphor ('kicked off') with a running metaphor ('ran the last few yards') further trivialises Ross's three years of malaria research: it pales in comparison to the 523 page-long discussion of life and research Ross used to fashion his public persona in *Memoirs*. Murugan claims that only half of Ross's three years researching were actually spent on malaria research: the 'rest went into cleaning up epidemics, playing tennis and polo, going on holidays in the hills, that kind of

⁵³ Ibid., p. 34, Ibid., p. 50.

⁵⁴ Howell, *Malaria and Victorian Fictions of Empire*, p. 186.

⁵⁵ Ghosh, p. 51.

stuff'.⁵⁶ Ghosh then undermines Ross's self-fashioning in his *Memoirs* and in his poetic corpus as a figure who conducted a never-ending series of experiments on an arduous journey towards discovery. Instead, Murugan suggests that research was a part-time extracurricular activity mingled in with holidays, sporting pursuits, and other trivialities. Murugan again emphasises his expertise at this point, telling Antar

I've tracked [Ross] [...]: I know where he was, what he did, [...] I know what he was hoping to see and what he actually saw; I know who was with him, who wasn't with him. [...] If his wife would have asked, "How was your day, honey?" I could have told her.⁵⁷

Here, Murugan fashions himself as a hunter tracking Ross. Meanwhile, Ross is fashioned as Murugan's prey. Murugan is in the position of expert and Ross's public persona is now under the microscope. In *The Calcutta Chromosome*, Ross's self-fashioning is the subject for dissection and analysis.

Murugan claims that, in fact, it is due to Ross's careful self-fashioning and diligent record-keeping of his life that he can query the accepted narrativisation of science in this case. Murugan explains to Antar that "the great thing about a guy like [...] Ross is that he writes everything down. You've got to remember: this guy's decided he's going to rewrite the history books."⁵⁸ Murugan then fashions Ross as an individual more interested in being a hero than being a scientist: the opportunity to cultivate a heroic public persona was simply made possible through medico-scientific research on malaria. Further, even if the journey towards heroism is not exactly as Ross would like it, Murugan claims that Ross will ensure that "everyone" will "know the story like he's going to tell it".⁵⁹ This comment from Murugan implies that Ross was even willing to modify information to create a convincing research narrative, leading to readers' curiosity about what Murugan's

⁵⁶ Ibid., p. 51.

⁵⁷ Ibid., p. 51.

⁵⁸ Ibid., p. 51.

⁵⁹ Ibid., p. 51.

story of events might be. Ghosh's careful study of Ross's public persona, and Ross's understanding of how to effectively narrativise science for a public audience, is clear here. Murugan repeats that Ross self-consciously captured an opportunity to tell a story: 'he's not about to leave any of [the story] up for grabs, not a single minute if he can help it'.⁶⁰ The notion of Ross obsessively controlling every aspect of his story, again hints at the possibility of an alternative understanding of his research. Indeed, Murugan says that Ross 'figured on a guy like me coming along someday and [he's] happy to oblige'.⁶¹ In other words, Ross has fashioned himself in a way that not only allows, but encourages, the exploration of his public persona and his research narrative. In *The Calcutta Chromosome*, Ross's own heroic self-fashioning is dismantled because Murugan is able to reveal the 'truth': that Ross was a puppet being controlled by a group of Indian spiritualists.

Murugan refashions Ross by presenting for the first time a story about who he imagines Ross was, what motivated him to conduct medico-scientific research, and how the research was conducted. In terms of describing Ross's character and personality before he began research, Murugan conjures up the image of 'a real huntin', fishin', shootin', colonial type, [...]; plays tennis and polo and goes pig-sticking; good-looking guy, thick moustache, chubby pink cheeks, likes a night out on the town [...]; drinks whisky for breakfast some mornings'.⁶² The characterisation of Ross as the 'colonial type' is borne out by the research on Ross, whose family had been stationed in India for generations. According to Mark Harrison, over-staffing was a serious issue in the IMS, leading to lack of work, pay, or promotion. Harrison claims that, as a result of these conditions, Ross's time was, as with the majority of IMS recruits, taken up with 'sporting opportunities'.⁶³ By including this information on Ross's daily activities, Ghosh fashions Ross as a typical,

⁶⁰ Ibid., p. 51.

⁶¹ Ibid., p. 51.

⁶² Ibid., p. 52.

⁶³ Mark Harrison, *Public Health in British India: Anglo-Indian Preventative Medicine 1859-1914* (Cambridge: Cambridge University Press, 1994), p. 14.

entitled, male coloniser in India. Where historical knowledge diverges into fiction is when Ghosh reimagines Ross's life as an author. Murugan presents Ross's literary career as a decision made in a moment of ambiguity: Ross 'sort of thought he'd like to write novels; had a go, wrote a couple of medieval romances' and when unsuccessful, thought he would 'try writing poems instead'.⁶⁴ Of course, as evidenced in Chapter Two and Chapter Three of this thesis, Ross wrote fiction and poetry before, during, and after his medico-scientific research, and only one novel, *The Revels of Orsera*, was a medieval romance, published decades after his research ended. This aspect of Ross's refashioning enables Ghosh to present a careless privileged young man, without any clear talents, able to spend his time dabbling in areas of passing interest. Ghosh then introduces 'Pa Ross', who tells Ross he must go to work for the IMS because it is the only 'outfit' left in India that is 'short on Ross's right now': It's got your name on it. [...] So kiss goodbye to this poetry shit, poetry just don't cut it.⁶⁵ With this comment then, Ghosh ensures that readers know how entrenched the Ross family are in the colonisation of India: he implies that the Ross's almost run the subcontinent. Like royalty then, Ross is expected to work for the family business, suggesting that it was inevitable that Ross would become another tool of the British Empire.

Upon finishing his medical training and returning to India to join the IMS, Murugan explains that '[m]edicine is the last thing on [Ross's] mind'.⁶⁶ Murugan claims that after years of 'playing tennis, riding, same old same old' and having a family, Ross's form of 'midlife crisis' is when he looks in the mirror one morning and asks: "What's hot in medicine right now? [...] What's going to bag me a Nobel?" And what does the mirror tell him? You got it: malaria – that's where it's at this season. [...] That's the ticket'.⁶⁷ Again, this decision, like Ghosh's explanation of Ross's literary output, fashions Ross as a

⁶⁴ Ghosh, p. 52.

⁶⁵ Ibid., p. 52.

⁶⁶ Ibid., p. 52.

⁶⁷ Ibid., pp. 52-53.

man privileged enough to be able to pursue what he wants whenever he wants and naive enough to believe that he will be able to solve the malaria problem. Despite the odds, ‘Ronnie [...] just stripped off and jumped right in’.⁶⁸ The use of another sports metaphor, with Ross diving into a pool of researcher-competitors, describing how Ross approaches his research seems in this case to indicate a lack of forethought on Ross’s part. Murugan then attempts to evidence the fact that Ross making the malaria discovery was almost impossible. Malaria was ‘top of the research agenda’ for France, Italy, and America, ‘everywhere except England’.⁶⁹ Murugan highlights Ross’s absolute arrogance for even daring to think he could solve the malaria problem for the British Empire alone, when so many other countries’ governments were providing money for teams of malaria researchers. Murugan asks the rhetorical question ‘but do you think Ross cared?’ before listing seven additional reasons why Ross appeared unlikely to succeed, highlighting Ross’s ineptitude and inexperience.⁷⁰ This list is followed by another list of reasons why Ross, in terms of his age, education, and location, is an unlikely candidate as the discoverer of malaria transmission: at Ross’s age, thirty-one years old, scientists were ‘checking their pension funds’, Ross knows ‘sweet fuck all about malaria’, he is living ‘in the boonies somewhere’, he has not used a microscope since he was a twenty-three year old studying medicine, and the IMS were not known for their scientific research.⁷¹ The various lists given by Murugan fashion Ross as conceited and hubristic, suggested by Ghosh as an archetype for all British colonisers in India, encouraging a sense of anticipation in Ghosh’s readership for Ross’s ultimate downfall in this refashioning.

Ross’s work to provide a new research narrative for scientists in his *Memoirs*, explored in Chapter One of this thesis, is explicitly overturned in Ghosh’s refashioning. Murugan explains to Antar that ‘our Ronnie’, a renaming indicating overfamiliarity and

⁶⁸ Ibid., p. 57.

⁶⁹ Ibid., p. 57.

⁷⁰ Ibid., p. 57.

⁷¹ Ibid., p. 57.

potential unprofessionalism for an academic, ‘says to himself, in his funny little English accent, “Dear me, I don’t know what I’m going to do with myself today, think I’ll go and solve the scientific puzzle of the century, kill a few hours.”’⁷² This refashioning of the impetus for Ross’s medico-scientific research is in direct contravention to what Ross wrote in *Memoirs*. As explored in Chapter One, Ross uses the preface of his scientific autobiography to dispel the idea that, with a spare half hour in a day, scientists ‘just step down to [their] laboratory and make a discovery.’⁷³ Ross ridicules this idea, as it undervalues the arduous work scientists conduct to make a discovery and therefore devalues scientists’ value to society, a problem he also tries to correct in *Science Progress*, as evidenced in Chapter Four.

Mishra and Kumar explain that ‘Murugan tries to establish that Ross’s research was controlled by the uneducated lower class’ to shatter ‘the superiority complex of the West’ by reimagining Ross’s research narrative. However, the claim of insignificance is only attributed to Ross, not all scientists: Murugan lists ‘heavy hitters’ in the scientific community who are already close to the malaria discovery Ross eventually made: ‘Robert Koch [...], Danilewsky and Romanowsky, [...] W.G. MacCullum [...] Bignami, Celli, Golgi, Marchiafava, Kennan, Nott, Canalis, Beauperthuy’.⁷⁴ This particular list evidences the fact that Ghosh is specifically highlighting Ross, rather than all Western scientists, as the subject of ridicule in the novel. By using Ross’s understanding of how scientists are undervalued against him, Ghosh makes Ross’s particular contribution to science seem insignificant, implying that Ross himself is insignificant. Despite the insignificance of ‘young Ronnie’, Murugan explains that ‘he beat them all. Or that’s the official story anyway’.⁷⁵

⁷² Ibid., p. 57.

⁷³ Ross, *Memoirs*, p. vi.

⁷⁴ Ghosh, p. 57.

⁷⁵ Ibid., p. 57.

Ross's fashioning as arrogant entitled coloniser makes him oblivious to who actually conducts the work to uncover malarial transmission in *The Calcutta Chromosome*: an Indian spiritualist group, described by Thrall as 'a shadowy indigenous group that manipulated Ross [...] in a grand scheme of 'counter-science.' While Ross sits 'hunched over the microscope', Murugan describes a 'swarm of orderlies buzzing around him', hinting at their anonymity and inconsequentiality from Ross's perspective. Ross does not 'know their names, hardly even their faces [...] who they are, where they're from, forget it, [Ross is] not interested.'⁷⁶ Again, Murugan's hyperbole helps to emphasise Ross's apparent lack of intuition or awareness. The various workers in his house are not there by accident. According to Murugan they have been sent there by a mystical group of spiritualists who are guiding Ross to discovery. For example, when Ross returns from England to start research he begins sticking 'needles into anything that moves', which makes him unpopular with the locals: 'Ronnie finds himself starring in a bad-breath commercial: every time he steps out on Main Street [...] it's empty'.⁷⁷ Suddenly, Abdul Kadir appears as if from nowhere, sent by the spiritualist group, willing to give his blood for Ross's study. Ross 'became hooked on Abdul Kadir', insinuating Ross's characterisation as a parasite, and Kadir, or the Indian population more generally, as host. Later it is revealed that Lutchman, who works in Ross's colonial bungalow as a 'dhooley bearer', is an immortal member of this mystical group who hands Ross the microscope slide of Kadir's blood which completes Ross's research. Murugan reveals to Antar, and the readership, that it was in fact the immortal spiritualist group that led Ross to his malaria discovery. In fact, the group had uncovered the method of malaria transmission before Ross, and, further, how malaria can help stem the advancing symptoms of syphilis, but due to the group's vow of silence they cannot share this knowledge with the world. As Shubha

⁷⁶ Ibid., p. 67.

⁷⁷ Ibid., p. 70.

Tiwari observes then, Ghosh's work is an 'undoing [of] the aura around Ross. [Ghosh] seems to say, "Okay, he found out anopheles [mosquitoes], so what?"'⁷⁸

Ross harnessed his identity as successful medico-scientific researcher in his literary works to develop a public persona as martyr, expert, hero, and leader. In Ghosh's refashioning of Ross in *The Calcutta Chromosome*, he removes Ross's claim to that public persona by undermining Ross's part in malaria research and discovery. Instead, Ghosh places that authority into the hands of the colonised others. As if to mock Ross's commitment to imperial science, Ghosh characterises the Indians who already have knowledge of malaria as a mystical spiritualist group, a movement which Ross actively ridiculed, as evidenced in Chapter Three of this thesis. The novel sees Ross become the pawn for 'counter-science', rather than the steadfast imperial hero worthy of devotion. Ghosh urges readers to interrogate and reassess the self-fashioning of science which Ross strove to build throughout his lifetime: fictive 'narratives of events' which see 'the constructions of [...] men of science [...] idealised [...] for fixing the attention of the public.'⁷⁹

This thesis provided new perspectives on the utilisation of various forms of literary work as tools for self-fashioning the medico-scientific researcher. While Ross has for the most part been overlooked until now, he proves an ideal choice for a case study examination of medico-scientific self-fashioning at the *fin de siècle* and during early twentieth century, due to the success of his malaria research, his relative fame during his lifetime, and the abundance of enlightening archival material which he curated. By examining Ross's published literary work, this thesis evidences the ways in which Ross carefully self-fashioned, and, from his place of prominence, encouraged others to do the same. Ross's self-fashioning garners reaction and response to this day. This thesis then

⁷⁸ Shubha Tiwari, 'Literary Shelf: *The Calcutta Chromosome*' (6 May 2012) URL: <https://www.boloji.com/articles/12222/the-calcutta-chromosome> [Accessed: 12 May 2020].

⁷⁹ Ross, 'Homer, Dante, Shakespeare, and Cervantes', p. 137.

furthered our understanding of the ways in which both scientists and medics engaged with, expanded upon, and challenged a variety of literary forms for their own self-fashioning during a pivotal point in their pursuit of professionalisation.

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