

The Founding of the Liverpool School of Tropical Medicine

Submitted for the degree of Master of Philosophy in the
University of Cambridge.
1994/5

Student Number: 6288



Introduction

Liverpool School of Tropical Medicine was established, along with the London School of Hygiene and Tropical Medicine, in the closing years of the nineteenth century when the British Empire was at its height, and its colonial properties in West Africa were becoming increasingly attractive trading outposts to other European colonial powers, notably France and Germany.¹ Davies describes a governmental malaise on the level of investment in British West Africa despite what might appear to be a time of general imperial expansion; in 1865 a parliamentary committee even advised that a withdrawal from West Africa would best suit Britain's colonial policy.² The advice of the committee was not followed but neither was investment in West Africa increased until it became clear to the government (at the Congress of Berlin in 1884) that unless it were to act accordingly French and German interest in West Africa would reduce Britain's trading power. A period of inland expansion began, not primarily for the reasons of trade, but to offset the possibility of either France or Germany, or both, isolating British coastal possessions from the interior.³ The threat of foreign intervention in British West Africa led to greatly increased government investment in medicine, education and in infrastructure.

¹Davies, 1978 p. 10.

²Parliamentary Papers, 1865, v. (412), p. iii & Davies, 1978 p. 11

³Davies, 1978 p. 11

The expansion of trade to the interior of British West Africa occurred several years before serious governmental interest; Macgregor Laird had, in 1852, established the African Steam Ship Company⁴ and with this venture up the river Niger came the opportunity of exploiting new native resources — supplements of cotton, groundnut and hides were added to the coastal, jungle, resources of rubber, palm oil and kola nuts. A second shipping line the British and African Steam navigation Company, established in 1868,⁵ enjoyed significant trading success⁶ and the result of competition lead to losses for the African Steam Ship Company.⁷ The African Steam Ship Company could not permit such a fall in revenue to continue so a three year period of agreed co-operation between the two lines was proposed by the elder company and came into operation in January 1870.⁸ The two lines were effectively united by Alfred Lewis Jones who had worked as a junior partner with the Liverpool agents for the British and African Steam navigation company (Messrs Elder Dempster and Company) after liquidating his own shipping and insurance broking firm, Alfred L. Jones and Company. Jones had by 1884— the year of the Congress of Berlin— ousted Alexander Elder and John Dempster and

⁴Davies, 1978, p. 5, Laird had managed to extract an annual subsidy for his venture from the government.

⁵Operating from Glasgow via Liverpool to the West African Coast, the line was created by Glasgow businessmen (the first sailing was in January 1869). The Liverpool agents were Messrs. Elder and Dempster, both of whom had previously been employed by the African Steam Ship Company.

⁶Davies, 1973 p. 57 (n. 4).

⁷The half-yearly balance of revenue falling from £6,887 in 1868 to £5,5456 in 1870. Davies, 1973 p. 61.

⁸Davies, 1973 p. 62.

obtained control of the Liverpool agency for the British and African Steam Navigation Company. Having no direct influence over the African Steam Ship Company Jones made it his business to buy all the shares he could, gaining control by 1900.⁹ Jones now had a firm grip on the West African steam ship trade. It was Jones' financial backing and commercial interests in West Africa that were to shape the nature of the School of Tropical Diseases (later, the School of Tropical Medicine) in Liverpool.

Liverpool School of Tropical Medicine

Dr Gage Brown wrote to Joseph Chamberlain (secretary of the Colonial Office since 1895) on October 4, 1897,¹⁰ asking that it be required that those medical officers who were to work in the tropics should undergo a brief period of training in Dr Patrick Manson's classes on tropical medicine at St. George's Hospital or at the Royal Victoria Military Hospital, which had long trained military doctors for posts in the colonies. Chamberlain responded; forwarding a Colonial Office memo, dated March 11th, 1898,¹¹ to the Foreign Office, India Office, War Office, and the General Medical Council and twenty-six medical schools in Britain. Though the medical schools and the

⁹Davies, 1973 p. 87

¹⁰Farley, 1991 p. 20

¹¹Miscellaneous papers, CO (Colonial Office) 885/7/119 (Farley, 1991 n. 21).

General Medical Council agreed in principle to the suggestions they claimed not to have the wherewithal to implement the necessary changes for the further education of those very few, specialist doctors who would work in the colonies.¹² Three medical schools did express interest in the proposals; those at Edinburgh, Newcastle and Liverpool.

The London school of tropical medicine was given full government support by the Colonial Office whose medical advisor, Patrick Manson, had pressed Joseph Chamberlain to institute, at the Seamen's Hospital at Greenwich, facilities for the training of tropical doctors. The Treasury was to supply £1,775 and, as the scheme was to benefit Africa: Africa was to pay the majority of the cost of the school. The London school was founded in July 1898 and opened in October 3rd 1899.¹³ Instituted and funded by central government, the London school contrasts sharply with the school at Liverpool which was the result of the interest of private investors.

On November 12th, 1898, Dr William Carter¹⁴ addressed the medical students at the Royal Southern Hospital, Liverpool at their annual dinner.

¹²Maegraith, 1972 pp. 354&5. Maegraith's work is essentially a reproduction of the official history of the school written in 1920 as the Liverpool School of Tropical Medicine; Historical Record, this is a condensation of the annual reports of the committee of the school. The Historical Record is unanalytical, and centres solely on the school, the progress of its committees and the dates resolutions were passed. Alfred Lewis Jones is always ascribed founder of the school.

¹³MacAlister, 1936 p. 48

¹⁴Lecturer of materia medica and therapeutics at the Royal Infirmary School of Medicine, and later upon University College receiving its Royal Charter in 1903, professor of the same subjects at the university.

Dr Charles MacAlister, present at the dinner, recalls Carter speaking of the great number of cases of malarial fever that were treated by the hospital, and indeed that it was so prevalent in their hospital that one of the resident doctors, James Milner Helme was able to write his M.D. thesis on malaria. MacAlister makes no reference to Carter's speaking of the memo that had been sent by Chamberlain to Liverpool on March 11th, but suggests that it was because of developments with Manson, the Colonial Office and the Seamen's Hospital that Carter recalled government subsidies to the Royal Southern during the Ashanti Campaign.¹⁵ The proximity of the hospital to the docksó the hospital was incepted as the Southern and Toxteth Hospital because of southern dockland expansion in 1838— and the great number of ships arriving from ports in West Africa, under the control of ship-owners operating from Liverpool, could only strengthen their argument.

Carter's speech had apparently had a deep effect on Alfred Jones, then senior partner of Messrs Elder Dempster and Company, who made an offer of £350 per annum for three years 'towards a school of tropical Disease to be established in connexion with University College and the Royal Southern Hospital'.¹⁶ Mr William Adamson, president of the Royal Southern approved Jones' plans and confirmed this in a letter written some days

¹⁵The Ashanti, the people of an independent state in southern Ghana, were a major threat to British trade in West Africa until defeated by Sir Garnet Wolseley in 1873.

¹⁶MacAlister, 1936 p. 49

later.¹⁷ University College and the Royal Southern seem to have attended to the recommendations of the president of the Royal Society, Dr Michael Foster, for at the school was instituted the relatively new arrangement of staff organization called for by Foster in a letter he sent to Principal Glazebrook of University College dated November 18th:

This system of a pathologist working with the physician or surgeon in clinical charge of the sick is being very largely worked with great success in America, and this ...[school] seems to offer an opportunity for it.¹⁸

Other of Foster's recommendations were also instituted; a clinical ward and small pathological laboratory at the Royal Southern, the principal pathological research laboratories at University College, and even the rate of pay for the two professional staff, £250 per annum for the Lecturer in Tropical Diseases (Major R. Ross was appointed on April 10th, 1899)¹⁹ and £ 200 per annum for the Demonstrator of Tropical Pathology (Dr. H. E. Annett was appointed on February 2nd, 1899).²⁰

The planned school had had an effect on the medical professionals in Liverpool, and was the cause of many speculations on the design and

¹⁷Liverpool School of Tropical Medicine; Historical Record, 1920 pp. 5&6. The letter was dated November 14th

¹⁸Liverpool School of Tropical Medicine; Historical Record, 1920 pp. 6&7

¹⁹Liverpool School of Tropical Medicine; Historical Record, 1920 p. 13

²⁰Chamberlain's letter of February 2nd, 1899, explaining that the government could afford no funding for the Liverpool school. Liverpool School of Tropical Medicine; Historical Record, 1920 p. 12

organization of medical practice and research in the city. There was, for example, the ‘noble ideal [of having] all the hospitals [of the city] affiliated to the University [University College],²¹ each taking up some ‘special branch of medicine’, each hospital then would then be a department of the faculty of medicine, but it was admitted that ‘there were manifest difficulties in the way of carrying out such a scheme’.²² Indeed, but the novelty of the proposal, if it were ever seriously considered, is apparent and gives some indication of the sense of change and progress that the school of tropical medicine brought.

The School’s first expedition was to West Africa and sailed from Liverpool on July 29th, 1899. Alfred Jones paid for all members of the expedition from the school as well as Dr E. Austen an entomologist working at the British Museum, Dr van Neck’s passage was paid by the Belgian government. That West Africa was to be the destination for the first, and many subsequent expeditions is not surprising, it was here that the shipping interests of the non-professional committee members lay (seven of the original fifteen committee members were representatives of shipping companies and of the Liverpool Chamber of Commerce).²³ The coast of West Africa had a fearsome reputation for those Europeans venturing there; in Jones’ own words

²¹University College signed its Royal Charter on July 15th, 1903 yet the School of Tropical Medicine was not officially incorporated into the University until 1905. University of Liverpool, 1953 pp. 9 & 12 respectively. Kelly, 1981 provides the most recent history of University College and the University.

²²Liverpool medical and Chirurgical Journal. 19: 324, 1898

²³Liverpool School of Tropical Medicine; Annual Report for 1899 p. 135

it was a 'hotbed of malarial fevers',²⁴ and was commonly known as 'White man's Grave'. The great interest shown in malaria by the school is therefore perhaps best expressed by the commercial motives of the private investors from the shipping communities in Liverpool; at the inaugural dinner on April 22nd 1899 Jones '...went on to remark that not only would the school be benefiting humanity, but it would also be a great help commercially'.²⁵ The confidence Jones placed in the as yet unacknowledged work of Major Ronald Ross on the mosquito and its links with malaria may be seen as further indication that the school was to be run to a fixed agenda; that of West Africa and malaria. Jones insisted on Ross' appointment to the position of lecturer in tropical diseases at the school,²⁶ and his judgment was proved sound with the award to Ross of the Nobel prize on December 10th, 1902.²⁷ The fixed geographical and nosological focus in the years immediately following the institution of the school were perhaps more suited to research than to the instruction of students, and the prejudicial preference of the London school with regards to the training of students heightening the distinction between the schools; the London school was considered officially responsible for the training of medical officers and, until 1900, all who wished to practise in the colonies had to study there. With private finance the Liverpool school was in a position to set its own objectives and for the primary aim to be

²⁴Jones' autobiography in Davies, 1976 pp. 183&186.

²⁵MacAlister, 1936 p. 52.

²⁶Davies, 1978 p. 107.

²⁷Liverpool School of Tropical Medicine; Historical Record, 1920 p. 27.

not instruction but goal oriented research, as initially recommended by the president of the Royal Society ²⁸

Official publications from the Liverpool school reflect this interest in malaria, specifically in West Africa.²⁹ The abroad interests of the school was not concerned solely with malaria in West Africa but this did remain the central focus until work on yellow fever (in the Amazon) and sleeping sickness (in Sierra Leone) became dominant with the deaths of Walter Myers in the Amazon in 1901³⁰ and Dutton in Sierra Leone in 1905.³¹ Early research interests in Brazil and in West Africa, at Sierra Leone, led to the construction in 1920 of laboratories in those countries.³²

Liverpool against London

Whereas the London school had the full support of the Colonial Office and was to be the only officially recognized institution that students of tropi-

²⁸Liverpool School of Tropical Medicine; Historical Record, 1920 pp. 6&7.

²⁹Liverpool School of Tropical Medicine; Memoirs [1&5], certain expedition reports are also to be found in the Thompson Yates Laboratory Reports, 1898&1906 and their supplements. They also show the type of research that was being done at Liverpool, it being almost exclusively malarial. Ross' publications on malaria written for the school as lecturer in tropical diseases are listed in the bibliography, *infra*.

³⁰Liverpool School of Tropical Medicine; Historical Record p. 24.

³¹Liverpool School of Tropical Medicine; Historical Record p. 33

³²The Liverpool School of Tropical Medicine; Historical Record was written to record the opening of these laboratories and the new Alfred Lewis Jones Laboratory in Liverpool.

cal medicine must attend if they were to work as Colonial Medical Officers, the Liverpool School was, though praised for its good intentions and work,³³ largely bypassed. Graduates of the school were not permitted to practise in the colonies without spending at least two months at London.³⁴ Graduates of the school were not permitted to practise in the colonies without spending at least two months at London . This prejudicial arrangement was continually fought against by the Liverpool School, Lord Lister assuming the role of mediator between the school and the government made significant advances in the official acceptance of the school by the government; Chamberlain apparently ‘sympathized’ with the Liverpool predicament.³⁵ Whilst full recognition of the Liverpool school was granted by Chamberlain on July 12th, 1900³⁶ the effect of Lord Salisbury’s writing that the Foreign Office was considering arrangements with the Liverpool School for the education of medical orderlies in the African protectorates may have been some spur to the Colonial Office to officially acknowledge the work of the Liverpool school. Its international reputation, through its being the first founded school of tropical medicine, was growing rapidly; Robert Koch was to attend the inaugural dinner on April 22nd, 1899 but was preparing to lead an expedition with the express intent ‘to found [in Germany] an institution for instruction and research in

³³Liverpool School of Tropical Medicine; Historical Record, 1920 p. 12.

³⁴Decreed in a letter from the Colonial office dated February 23rd, 1899. Maegraith, 1972 p. 356 & Liverpool School of Tropical Medicine; Historical Record, 1920 p. 12.

³⁵Journal of Tropical Medicine. I, 1899 p. 287.

³⁶Maegraith, 1972 p. 356.

tropical hygiene and diseases'³⁷ and the school was under the scrutiny of the Belgian government who had sent an official, Dr G. van Neck, to report on the organization and work of the school with the intention of establishing a similar school in Belgium.³⁸ I suspect that the involvement of Lister, Koch, and to some extent the Foreign Office, was good advertisement for the Liverpool school, and that the endorsement of the school by them led further credibility to Liverpool's claims to be a school that warranted equal official rank with London. Jones took advantage of the visits of medical, political and royal dignitaries to the school and made of each an opportunity for the raising of the school's prestige and wealth.³⁹

The injustice felt by civic dignitaries and medical professionals in Liverpool over their treatment by those in London extended beyond the prejudicial teaching and licensing arrangements of the London school. The Reverend Samuel Ashton Thompson Yates,⁴⁰ addressing the medical students at University College in 1899, spoke aggressively on the excesses of 'red-tapism' and of 'state tyranny from London'.⁴¹ Further forcing home the difference between the establishment of the Liverpool and London schools, he asserts that great public buildings and institutions are better provided for by private

³⁷Liverpool Medical and Chirurgical Journal. 19: 326&327, 1899.

³⁸Liverpool School of Tropical Medicine; Historical Record, 1920 p. 15.

³⁹Milne, 1914 pp. 88&89

⁴⁰Edward P. Thompson, Samuel Ashton's brother, provided the finance for the initial clinical ward— named after their father (Samuel Henry Thompson)— at the Royal Southern Hospital.

⁴¹The Thompson Yates laboratory Report. 1 & 2: 21&23, 1889-9

pockets than from the public purse of the unwilling ratepayer. In this way those who are persuaded rather than coerced into financing such ventures take the more pride in them. The establishment of the school of tropical medicine in Liverpool was a source of civic pride as was the munificence of the city's benefactors. The Lord Mayor of Liverpool, William Oulton, at the school's inaugural dinner was of the same opinion.⁴²

The medical men of Liverpool were genuinely excited to be involved with the school of tropical medicine; the Liverpool Medical Institution gave its full support to the founding of the school at the eleventh ordinary meeting on March 9th, 1899, 'Fortunately, unlike London, the meeting this evening shewed unmistakably that the medical profession in Liverpool were unanimous in wishing every success to the new school'.⁴³ Well they might, for being a smaller city than London yet having a greater foreign trade than any other British port Liverpool had more to lose from the malign effects of tropical disease on its commerce.⁴⁴ As a University history of 1907 writes 'No city in the empire has suffered more grievous losses from the diseases that prevail in tropical regions than Liverpool: none has more to gain from systematic investigation of the methods of prevention and cure'.⁴⁵ Dr Adam of the Liverpool Medical Institution made explicit the aims of the school

⁴²MacAlister, 1936 p. 54

⁴³Liverpool medical and Chirurgical Journal. 19: 366, 1899

⁴⁴Liverpool Medical and Chirurgical Journal. 19: 323, 1899

⁴⁵University of Liverpool, 1907 p. 20

in mercantile terms: that it was for the national rather than colonial benefit, for the expansion and protection of empire through securing commercial trade. The medical profession was supplying a service rather to commerce than humanity.⁴⁶

Sir Alfred Lewis Jones

Jones, through his initial donation, had undoubtedly begun the process of establishing a centre for the study of tropical diseases but the estimated cost of the founding of the proposed school was far in excess of the £350 per annum he was to give for the school's first three years. Between £6000 and £10,000 was to be spent on the buildings at the Royal Southern Hospital and a further £2000 on the school museum and extension to the pathological laboratories at University College. The professional subcommittee also recommended an annual budget of £600 for staff wages, apparatus, books and specimens.⁴⁷ The shortfall in finances was made up by public subscription, and Jones as chairman of the school's committee raised additional finances; over £120,000 in the dozen years to his death.⁴⁸ Other than outright donations to the school (which Jones frequently had made when the school had severe financial problems in 1904–5) Jones had paid for the passage of several research workers to West Africa when the School's budget would not allow this, and left a considerable amount of money for the 'original research of all kinds into the cause of disease on the West Coast of Africa', his trustee O. Harrison Williams had by 1914 given a further £70,000 of Jones' estate to the school.⁴⁹ That Jones should have been so deeply involved with the financing of an ostensibly educational institution is surprising given that his view of higher education:

⁴⁶Liverpool medical and Chirurgical Journal. 19: 324, 1899

⁴⁷Liverpool School of Tropical Medicine; Historical Record, 1920 pp. 10&11

⁴⁸Milne, 1914 p. 84&5

⁴⁹Milne, 1914 p. 85. Jones' will is reprinted on pp. 111–4

Many men waste years of their lives at expensive schools instead of working at the professions for which they are intended. Indeed, I will go as far as to say that after the age of sixteen any time spent otherwise than in the work of his profession a man is wasting. All the education necessary to the practical affairs of life can be obtained by that time.⁵⁰

Clearly, given the specific interest in West Africa and malaria that his shipping interests had brought, the Liverpool school was, at least in Jones' perhaps private opinion, not so much a school but a research establishment. However, equality with the London school on instruction may have been necessary for the school's social status and for future funding from the governmental offices and ministries.

In his short autobiography he claims that '...the Liverpool School of Tropical medicine is the outcome of a long cherished idea. . . it had occurred to me that medical science could find a sure weapon to fight this dread disease [malaria] if special facilities were given for the purpose'.⁵¹ Jones' personal motive for the energy he invested in the founding and financing of the school may have been because of the effects of tropical diseases on his private life; his brother in law, John Pinnock, had died in May 1878 whilst returning from trading in West Africa, leaving his sister and her children in his care.⁵² Something of Jones' personality may be gleaned from his lowering of costs

⁵⁰From Jones' Obituary in the Daily News, December 14th, 1909, p. 5 col. 3

⁵¹Jones (no date) in Davies, 1976.

⁵²Davies, 1978 pp. 28–9.

for specialist banana shipping from Jamaica, following Joseph Chamberlain's inducement of official government recognition.⁵³ Chamberlain had suggested that the shipping could be accomplished with an annual subsidy of £20,000, Jones believed that he could not do it for less than £60,000 but following the hint that he would be rewarded for his troubles Jones then agreed on the annual subsidy of £40,000.⁵⁴ If it were recognition for his life's work that Jones had been seeking he had certainly achieved it for there is on the George Pierhead in Liverpool a monument dedicated to him; the inscription reads, 'A shipowner strenuous in business he enlarged the commerce of his country by his mercantile enterprise and as founder of the Liverpool School of tropical medicine made science tributary to civilization in West Africa and the colonies of the British Empire.'⁵⁵ Upon his death he bequeathed much of his estate to many other charitable institutions in the city and the breadth of his bequests⁵⁶ show something of his civic generosity, this is recorded in his obituary in *The Times* 'His heart was always open, and his purse was as open as his heart to any deserving case of need, sickness, or distress'.⁵⁷ In this he was, as did many Victorian philanthropists, giving from huge personal wealth to the city in which he lived and worked; 'the supreme test of anything in

⁵³Chamberlain later put forward Jones' name for a knighthood. Davies, 1978 p. 109.

⁵⁴Davies, 1978 p. 69.

⁵⁵Some idea of public feeling in Liverpool at the time for Jones' may be gleaned from *The Times* of December 18th, 1909, p. 13 col. 3, his funeral 'was attended by a very large and representative gathering' despite the inclement weather crowds of spectators lined the streets'.

⁵⁶Milne, 1914 p. 114.

⁵⁷*The Times*, December 14th, 1909 p. 10 col. 2.

the Victorian mind was "does society approve?"'. It did.

However, the treatment of tropical disease in his employees and the prevention of its spreading from the natives (who were believed to be the inherent carriers of disease)⁵⁸ would have been beneficial in the saving of money invested in their training,⁵⁹ and of more concern to Jones the businessman. It must have been these concerns, and also the loss of revenue resulting from the illness (and death) of employees that encouraged him to make the offer of a donation to the founding of a school of tropical medicine. Whether he would have done so had he been able to foresee just how much the school would personally cost him is another matter, though he did say at William Carter's farewell dinner in 1908 that the £80,000 Liverpool had invested in the school was never better spent.⁶⁰

Malaria, Ross and Manson

On April 10th, 1899, the school's professional subcommittee had recommended the appointment of Major Ronald Ross formerly of the Indian Med-

⁵⁸This even after Ross' work identifying the *Anopheles* mosquito as the malarial vector. The Colonial Office freely distributed booklets suggesting that sequestration from the native was the most efficient prophylaxis, e.g. Stephens and Christophers, 1903 pp. 79.

⁵⁹Other major concerns for the West African traders were the very high salaries and long leaves they were forced to give to their employees in order to tempt them to work in the colony. *The Times*, March 16th, 1901, p. 9 col. 4

⁶⁰MacAlister, 1936 p. 125

ical Service to the position of lecturer in tropical diseases. The committee unanimously approved this recommendation.⁶¹ Jones, though not a member of this subcommittee, is believed to have had a significant influence on the subcommittee's recommendation⁶² and they were certainly aware that malarial research was Jones' primary concern;⁶³ Ross was known for his work on malaria through publications in the *Indian medical Gazette*⁶⁴ and in the *Indian Lancet*⁶⁵ — his researches becoming perhaps more widely known with the publication of a paper by the *British medical Journal* on Mosquito-Malaria Theory,⁶⁶ co-authored with Patrick Manson. It was for this work that he was awarded the Nobel prize in 1902, and became still more of a conspicuous asset to the school.

For research work on malaria, Ross was the obvious choice as the school's lecturer; it was not possible for the school to recruit Manson as he was deeply involved with his work as the medical advisor to the colonial secretary, Joseph Chamberlain, and was then formulating his plans for the

⁶¹Liverpool School of Tropical Medicine; Historical Record, p. 13

⁶²Davies, 1978 p. 107

⁶³Jones had convened a meeting at the offices of Messrs.. Elder, Dempster and Company on November 23rd, 1898, with the intention of finding a means to overcome malaria and the effect it was having on the company's workforce. Liverpool School of Tropical Medicine; Historical Record, p. 7.

⁶⁴E.g. "The Third Element of the Blood and the Malarial Parasite, and a List of Natural Appearances in the Blood which have been mistaken for Forms of the Malaria Parasite." *Indian medical Gazette*, 1894

⁶⁵E.g. Observations on the Crescent-Sphere-Flagella Metamorphosis of the Malarial Parasite with the Mosquito. *Indian Lancet*, 1896

⁶⁶*BMJ* December 18th, 1897

establishment of the London school on the Albert docks at Greenwich. Ross was himself captivated by the establishment of schools of tropical medicine despite his private contention that he was not a teacher but an investigator, not a medic but a scientist.⁶⁷

The scheme you are going to propose is admirable. No doubt the government of India will jog up when Chamberlain comes along. Remember I am entirely at your disposal. The idea is grand, and I promise to throw myself into it. I have already arranged my tactics. They will be Napoleonic— concentration. We shall attack our problem at a time in a body, if possible. That is the way I am sure.⁶⁸

Having identified in the *Anopheles* mosquito the medium of transfer of malaria he was eager to publicise his work widely, he writes to Manson that his primary motive for returning to England for a while was to ‘publish malarial work and promote it’ and also to ‘arrange details’ of the school of tropical medicine that Manson was proposing.⁶⁹ Ross openly wrote to Manson of the importance of his work, of his intentions to disseminate his results, and to construct a regimen of malarial prophylaxis but that he was obliged to remain silent⁷⁰— perhaps the British government, or more particularly the

⁶⁷‘Nevertheless I was not particularly well satisfied with this kind of effort. I was naturally an investigator.’ he further quotes his friend David Bruce on education: ‘Those who require to be taught are seldom worth teaching’. (Ross, 1930 p. 20). He attributes Manson’s wild speculations on the link between the mosquito and malaria to his being a medical man, Ross’ own work is methodical and deliberate (Ross, 1930 p. 15).

⁶⁸From a letter dated July 12th, 1898 from Ross To Manson. In Ross, 1929 p. 18

⁶⁹From a letter dated July 12th, 1898 from Ross To Manson. In Ross, 1929 p. 19

⁷⁰From a letter dated July 6th, 1898 from Ross To Manson. In Ross, 1929 pp. 17–18

India Office, could do without the political embarrassment of possible failure. His relationship to governmental bodies seems peculiarly combative, he perhaps seeing in their rounds of committees a blockade to his policies of malarial prevention; he had found the Indian Government ‘a mule as regards science. It won’t do anything unless driven. As for the Indian Medical Service, it does not care for the whole business [of tropical disease prevention]’. In 1901 Ross decided to something more than politicise to advance the recognition of his work, he ‘proposed to supersede His Majesty’s lawfully constituted Sanitary Department of Sierra Leone; to ”wipe the eye” of the Governor and Council; to kill his mosquitoes under the very nose of the Health Officer’.⁷¹ His work was successful yet neither local nor imperial authorities continued with the programme he had initiated there under the private finance of the Liverpool shipping magnates, Alfred Jones, John Holt and F. Swanzy, and the Glasgow merchant James Coates, Junior.⁷² The Colonial Office constantly refused to follow Ross’ suggestions for malarial prophylaxis and the establishment of local sanitary commissioners who would monitor conditions of hygiene in the colonies and report to the Colonial Office. Chamberlain had found these proposals impracticable and preferred the local knowledge of officials to the scientific knowledge of Ross’ sanitary commissioners, there was of course also the problem of finance.⁷³ Ross complains bitterly of official malaise in his

⁷¹Ross, 1923 p. 433. Further detail is to be found in Ross, 1901

⁷²Kubicek, 1969 p. 147

⁷³*The Times*, March 16th, 1901, p. 9 col. 4ñ5. The article comments ‘...he [Chamberlain] was rather sorry to hear one of the speakers [Ross would seem the more likely] say that the governors were not so active as they should be and that they allowed pecuniary

memoirs,⁷⁴ and spoke out at governmental inertia to all who would listen; by the account in *The Times*⁷⁵ of his recent speech to the Royal Institute he was particularly scathing. His soured relations with governmental bodies are of some note as they occupy him at least from 1898 until his writing of his memoirs in 1923, and they may be as much a product of his relative lack of influence compared to that wielded by Manson as of actual governmental disinterest. Kubicek writes that it was ‘Ross’ temperament, the obstructions put in his way by officialdom in India, and the controversy which flared over who first discovered the malarial parasite [he or Manson]’ which resulted in his indictment of the Colonial Office, and that his complaints of jealousy of the Liverpool school and of hostility towards science (and more importantly scientists, as opposed to medics) were largely unfounded.

The personal relationship between Ross and Manson had deteriorated terribly since their initial closeness, and their co-operation in the malarial researches. Ross was later to describe this ‘co-operation’— he was the research worker, systematically discovering whilst Manson, in England, set about his own plans for a school of tropical medicine after supplying only the fancy that mosquitoes and malaria might be somehow linked and worthy of further investigation.⁷⁶ Manson had achieved a considerable fame for his

considerations unduly to influence them in their dealing with sanitary work’.

⁷⁴Ross, 1923, especially pp. 433–9

⁷⁵*The Times* May 10th, 1909, p. 8. Ross’ reply to the article is printed in on May 21st, p. 12.

⁷⁶Ross, 1930. There is nothing explicit in the text to derogate from Manson’s achieve-

work in the field of tropical medicine, and now is frequently called, by his obsequious sons, ‘the father of tropical medicine’; his eponymous work on tropical disease has outlasted him, and is surely the work of the philosopher (Ross is the other man): ‘...too often the philosopher who stops at home and writes the text-book gets the credit for the discoveries really made by other men’.⁷⁷ Manson’s fame for being the discover of the carrier of malaria Ross ascribes to an idiosyncratic fault of his own— that he was by nature a hero worshipper⁷⁸ and gave too much credit to Manson:

I wished to give as much credit as possible to him, if only because priority is not always properly allowed in scientific literature; and I, therefore, gave him publicly the *whole* credit of my work in so many words: and I am glad I did so. But one must be a very dull person not to be able to distinguish here the exaggeration of gratitude. My praise was exaggerated, because really, he could scarcely be credited with all my findings, many of which had been made independently of him. It is better to err on the side of generosity than the converse; but this was no reason why all my work in India should be attributed to his inspiration.⁷⁹

Manson, was credited with, if not all, the most important of Ross’ findings and Manson himself could hardly put the world to rights on a less

ment but the allusions are so beautifully open, and would have been apparent to all who read and knew of the antagonism between Ross and Manson. Passages on pp. 5–6, 9, 15, 17, 19, 21 & 23 are further clarification of where, and how, Ross apportions credit for the mosquito-malarial theory and its ensuing prophylaxis.

⁷⁷ Ross, 1930 p. 9

⁷⁸Ross, 1929 p. 288

⁷⁹Ross, 1930 p. 19

unequal portioning of credit. The medical world had its hero in Manson; as Ross saw it the medical ranks had closed around one of their own,⁸⁰ and the Colonial Office representing The Establishment had done similarly. The award of the Nobel prize did little to assuage his pique, and it seems that he had become disillusioned with medical science, retreating to his poetry and mathematics:

If I could live my life again I would certainly not attempt medical research under the same conditions, and I cannot advise others to do so.⁸¹

Conclusions

If Ross saw himself as the true and sole discoverer of a medical truth, having the wherewithal to provide efficient prophylaxis, yet being ever thwarted by bureaucracy, and those at Liverpool saw the same, his appointment to the post of Lecturer in Tropical Diseases and his acceptance of the post (given his general opposition to education [n. 69]) becomes understandable: it is mutually beneficial. Liverpool has the Discoverer of Truth, London has a pretender; Ross has an appointment at a school that by virtue of its private financing from those with a particular interest in malaria has ready, listening

⁸⁰Ross, 1930 p. 23

⁸¹Ross, 1930 p. 24

ears and deep purses. From Liverpool Ross has the perfect foundation for the implementation of his malarial prophylaxis (the Foreign Office is sympathetic to the Liverpool cause in West Africa) and so by securing a practical demonstration of his truth could then reassert himself to the full credit due to him. The embarrassment of the London school by being so effaced, I am sure would, have been very pleasing to those in Liverpool who believed that the distance from Liverpool to London was the same as the distance from London to Liverpool.

Jones was without doubt the major financier of the school, perhaps because he had the largest commercial interest in the reduction of malaria in West Africa. He was shrewd in his insistence that Ross come to Liverpool, Ross would work the harder to make his part in the malaria affair clearer, and the prospect of having both Ross and Manson working at the London school (provided that they had settled their differences) would have seriously undermined the Liverpool school's status, as it was malaria that initially concerned it. Jones perhaps as much through desire to see his adopted city succeed as through commercial motive made the first donation to the founding of the school; business interest, civil pride, the preservation of empire, and medical progress he saw merged in the school. Whether the idea, as it were, just occurred to him, was long cherished as he claimed, or was presented to him at the medical students' dinner at the Royal Southern Hospital is immaterial. He saw it as his pet scheme, and beat London to the establishment of a school.

Typeset in L^AT_EX