

Life and Health in Nineteenth-century India: The Perspective of a Surgeon in the Indian Medical Service

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Abstract

This paper explores a limited range of medical topics in nineteenth-century British India, chosen because they are among the subjects on which Sir Joseph Fayrer wrote. They include medical concepts of the causation of disease at this time, relationships between British and Indian peoples, especially but not limited to doctors, as exemplified by changing attitudes to the causation of disease and perceived professional abilities, purdah, venereal disease and pilgrimage. In the final section, the attempts to mitigate what were seen as the harmful effects of the Indian environment and climate on European constitutions will be explored. It would appear that, even though there is already an extensive literature on these subjects, there is ample scope for further research.

Keywords

Nineteenth-century India, Anti-contagionist, Climate, Pilgrimage, Zenana and purdah, Venereal disease.

Introduction

Biography is usually most successful when set in the wider context of the subject's era and this process is made easier if the subject has engaged with the relevant topics in print. The life and publications of Sir Joseph Fayrer (1824-1907), a man of wide and varied interests, provide a diversity of topics related to life in nineteenth-century Imperial India (Figure 1). Some of these, supplemented by other sources, will be discussed in this paper.

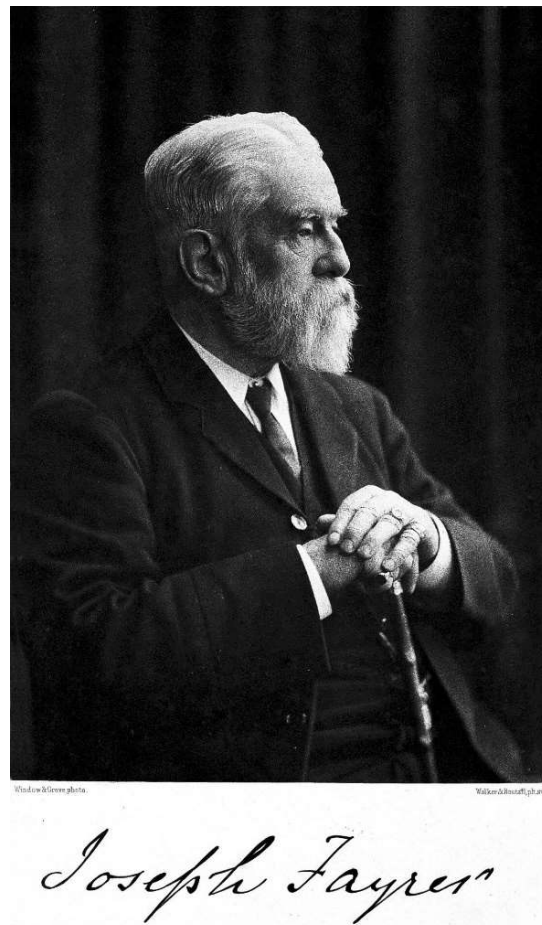


Figure 1. Sir Joseph Fayrer in 1900. Wellcome Collection. Public Domain Mark.

Fayrer was appointed as an assistant surgeon in Bengal in 1850. He served with distinction in the Pegu War in Burma in 1852 and afterwards in Lucknow, including the siege in 1858 when his house served as both fortress and hospital. Thereafter he was appointed Professor of Surgery in Calcutta until ill-health forced his return to Britain in 1872. During this time his publications were mainly surgical and included two textbooks.^{1 2 3} After his return from India he was elected FRCP and thereafter practised as a physician. He was appointed President of the Medical Board of the India Office (1873-95) so his total involvement with the Indian Medical Service (IMS) lasted 45 years. He now published mainly on epidemiological and sanitary subjects, notably on cholera. He represented the Government of India at the International Sanitary Conference in Rome in 1885 where his sanitarian and anti-contagionist views, especially

¹ Cholmeley HP, revised by Bynum W F. Fayrer, Sir Joseph, first baronet (1824–1907). *Oxford Dictionary of National Biography*, Oxford: Oxford University Press; 2004, <https://www.oxforddnb.com/display/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-33099?print=pdf> (accessed 30 October 2023).

² Fayrer J. *Clinical Surgery in India*. London: J Churchill, 1866.

³ Fayrer J. *Clinical and pathological observations in India*. London: J & A Churchill, 1873.

his opposition to quarantine, chimed with and suited those of the British Government both in India and at home. Another major research interest involved the poisonous snakes of India on which he published a major work in 1873, continuing this research, after his return to England, in conjunction with Lauder Brunton (1844-1916).⁴ They complained that their work on antisera to snake venoms had been unfairly hampered by the Cruelty to Animals Act [39 & 40 Vict. Ch. 77.] of 1876.⁵ In 1896 Fayrer retired to Falmouth in Cornwall where he spent much time yachting and where he died in 1907.

British doctors' attitudes to the Indigenous population and specifically to Indigenous Indian doctors

In his book *White Mughals*, the historian William Dalrymple describes how, in the eighteenth and early nineteenth centuries, there was considerable racial intermingling, including marriage, at least among the higher strata of British and Indian society with often very marked respect by the British for Indian culture, religions and traditions.⁶ This harmony was slowly but surely destroyed by the rise of Benthamite utilitarianism, often coupled with Christian proselytising, with the intention of bringing a supposedly 'civilising mission' of order, modernity, Western science and medicine and Christianity to those perceived to be primitive and 'heathens'.⁷ This was not to be an intermingling of cultures but 'a take it or leave it' affair. It demanded that the Anglo-Indian should now repudiate Indian Culture and habits. As one former missionary recalled, the Anglo-Indian who went out in the midday sun without first donning his tribal symbol, the *sola topi* (pith helmet), was not just unwise but was also a cad and a traitor who had 'gone native'.⁸

In nineteenth-century British eyes the antithesis which best symbolised the ordinary uneducated Indian was filth and its associated stink. Filth, in all its forms and whether in India or an English slum, was not only tainted by implications of moral degeneracy but was also anathema to the sanitarian anti-contagionists, of whom Fayrer was one, who constituted the great majority of the British doctors in India for much of the nineteenth century. This was so even if that anti-contagionism was in some cases 'contingent contagionism', contingent, that is, on some other factor like climate or locality or that legacy from Thomas Sydenham (1624-89), the 'epidemic constitution' or, as it became known in India, the 'epidemic influence'.^{9 10}

⁴ Cholmeley, *Fayrer, Sir Joseph*, 2004 (Note 1).

⁵ Papers of Sir Thomas Lauder Brunton. Wellcome Library MSS 5966–5975 and SA/RDS/A/3.

⁶ Dalrymple W. *White Mughals: Love and Betrayal in 18th-century India*. London: Viking, 2003.

⁷ Bearce GD. *British Attitudes towards India, 1784–1858*. London: Oxford University Press, 1961. See especially p.65-78 & 180-191.

⁸ de Caro FA, Jordan RA. The Wrong *Topi*: Personal Narratives, Ritual, and the Sun Helmet as a Symbol. *Western Folklore*. 1984; 43(4): 233-248.

⁹ Hamlin C. *Cholera: the biography*. Oxford: Oxford University Press, 2009: p.152-168.

¹⁰ Wilson LG. Fevers and Science in Early Nineteenth Century Medicine. *Journal of the History of Medicine and Allied Sciences*. 1978; 33: 386-407.

But how did the Anglo-Indian doctors view their *educated* Indian counterparts, at least those who had been trained in Western medicine in medical schools set up by the British? A review of the vernacular medical colleges instigated by the utilitarian Lord William Bentinck (1774-1839), who was Governor-General from 1828 to 1835, had criticised their admission standards and the omission of practical studies in anatomy, the latter being hindered by some Brahminical taboos on touching dead bodies.^{11 12} However a generation later, and as an examiner for the vernacular class of the Calcutta Medical School, Fayrer had a high opinion of the standard of education and described his own assistant, a graduate of the school, ‘as a surgeon of great distinction and a famous lithotomist’.¹³ Edward Lawrie (1846-1915), a passionate believer in the safety of chloroform, also praised Indigenous students, both men and women, and surgeons; but in 1879 Kenneth McLeod (1840-1922), one of Fayrer’s successors as Professor of Surgery in Calcutta, wrote of having to deal with ‘unsatisfactory assistants’.^{14 15}

In nineteenth-century India two systems of Western medicine pertained: a ‘superior’ medical service staffed almost entirely by European doctors and a Subordinate Medical Service (SMS) staffed by Western-trained Indigenous doctors. In addition there were practitioners of ayurvedic medicine (Vaidyas) and of Unani (Haidas). Ayurveda, which emerged in India about 600 BCE, is based on Sanskrit texts and is practised largely by Hindus. Unani, which arrived in India in about 1200 CE, is based on Graeco-Arabic medical practice and is practised mainly by Muslims. The most numerous group in the nineteenth century were folk practitioners who practised mainly in rural areas and whose cures were based on tradition and superstition.¹⁶

In the eighteenth century all practitioners in India, except for the folk practitioners, viewed disease as a result of an imbalance of the humours, and there was mutual respect and a willingness to learn from each other. This changed as Western medicine became increasingly science-based and British doctors came to see their own practice as superior to Indigenous Indian practices. As in other walks of life, this process was enhanced by British views of the superiority of Christian thought and morality and by the alleged benefits of utilitarianism. Moreover, Western educated Indians increasingly sought the services of British doctors.¹⁷

Indigenous practitioners responded in different ways. Some embraced Western medicine, others tried to create a synthesis of Western, Ayurvedic and Unani medicine and others continued their existing practice but in the face of increasing difficulties.¹⁸

¹¹ Kumar A. *Medicine and the Raj: British Medical Policy in India, 1835–1911*. London: Sage, 1998. p.24.

¹² Harrison M. Tropical medicine in Nineteenth-Century India. *British Journal for the History of Science*. 1992; 25: 299-318, especially 301 & 309.

¹³ Fayrer J. *Recollections of My Life*. Edinburgh and London: William Blackwood and Sons, 1900. p.263.

¹⁴ Anon. Medical Hyderabad. *British Medical Journal*. 1895; 1: 989-990.

¹⁵ McLeod K. The London Letter: The introduction of the antiseptic system into India. *Indian Medical Gazette*. 1903; 38: 63-64.

¹⁶ Saini A. Physicians of colonial India (1757-1900). *Journal of Family Medicine and Primary Care*. 2016; 5: 28-32.

¹⁷ Saini. Physicians of colonial India, 2016 (Note 16).

¹⁸ Saini. Physicians of colonial India, 2016 (Note 16).

The attitude of British doctors to the use of Indian medicines was also polarised. Western medical practice at this time sought to emphasise its scientific credentials, for example, by rejecting a Hippocratic tradition in which diseases which were believed to be influenced by locality were thought to be best treated with local remedies and also by local practitioners with local knowledge.¹⁹ However sanitarian anti-contagionists in India placed great emphasis on the importance of locality. Thus Fayrer described himself as ‘a great advocate for utilising the local remedies of the countries in which one may live’. Others preferred to use Western medicines but, when these were not available, some were happy to use Indian remedies. At this time most medicines in both traditions were largely plant-based and some Indian treatments, like the bael fruit which was used for treating diarrhoea, found their way into some Western Pharmacopoeias and Formularies for a time.²⁰

We should not forget that, in the face of continuing religious turmoil in the Eastern or Byzantine Roman Empire in the fifth century CE, much Græco-Roman medical learning was transferred to the Middle East. Here it absorbed medical teachings from the Persian Empire and, because Persia was on trade routes from India and China, medical teachings from all of these places were contained in the knowledge that was finally transmitted back to the West during the Muslim kingdom which occupied much of the Iberian peninsula from the eighth to eleventh centuries.²¹ It is perhaps unlikely that the Anglo-Indian doctors of the nineteenth century were aware that their medical practice contained elements derived from Ayurvedic medicine which some of them now derided as unscientific.

Environment and disease

Anti-contagionists considered both climate and locality to be important factors in the causation of many diseases. European doctors in India believed its climate to be unique and a major factor in the pathogenesis of disease in India, to the point that its relationship to disease required a fundamental reappraisal of European medical knowledge.²²

A local factor which had been popularised by the German sanitarian anti-contagionist Max von Pettenkofer (1818-1901) was the concept of ‘ground water’ which he considered to be a measure of the capacity of the soil to support fermentation and give rise to disease, especially epidemic cholera.²³

¹⁹ Airs, Waters, Places. In: Lloyd GER (ed); tr. Chadwick J, Mann WN, Withington ET, Lonie IM. *Hippocratic Writings*. London: Penguin, 1983. p.148-169.

²⁰ Fayrer J. *On the bael fruit and its medicinal properties*. London: Pardon & Son, 1877. See especially p.5-7 & 16-19.

²¹ White H. *From East to Barts: The Origins of the First General Hospital in England, The Infirmary of the Priory of St Bartholomew*. Riverside Publishing Solutions, 2022: Especially p.78.

²² Harrison M. *Public Health in British India: Anglo-Indian preventive medicine 1859–1914*. Cambridge: Cambridge University Press, 1984. p.54.

²³ von Pettenkofer M. *Cholera, how to prevent and resist it*. From the German translated (with introduction and appendix on the International Cholera-Conference of Vienna) by Thomas

When reviewing a book which claimed that artificial irrigation had done more harm than good, Fayrer agreed that there had been some untoward consequences but argued that these were the result of ‘an imperfect application of the principle’ rather than of the principle itself. He was, however, concerned that additional water in canals and additional moisture in the subsoil, as a result of excessive irrigation, had led to an increased prevalence of ‘malarious fever’, but strangely he did not mention cholera in this context.^{24 25}

The author of the book under review also referred to the harmful effects of deforestation in India.²⁶ Once again Fayrer agreed, arguing that the cultivation and protection of forests was of the greatest importance because they ‘temper the climate by the moisture they exhale, and tend to cause rain where there would be none’. He believed that the climatic changes which had resulted from deforestation, together with water-logged soil as a result of excessive irrigation, were responsible for the crop failures and subsequent famines in 1875-80. In fact the origins of deforestation in India went back over 50 years having been particularly extensive during the 1820s-40s. Initially this had met with medical approval because it coincided with the rise of anti-contagionism when forests and vegetation generally were seen as a source of miasmata, that is, noxious vapours arising from marshes or decomposing vegetable or animal material and formerly believed to cause illness’.²⁷

The consequences of deforestation, namely soil erosion, impaired soil quality, decreased rainfall, climate change and crop failures, became progressively more apparent during the 1830s-40s.²⁸ Deforestation and erosion of forest rights led not only to famine and disease but also to widespread social and cultural changes, especially among women and children.²⁹

Zenana and purdah

Zenana refers to the part of an Indian house which is reserved for the women of the household in Muslim, Hindu or some other observant families. It is usually accompanied by the practice of purdah, the requirement that women cover their bodies so as conceal

Whiteside Hime; revised by Dr. von Pettenkofer. London: Bailliere, Tindall & Cox, 1883. p.18-19.

²⁴ Fayrer J. Croonian Lectures on the Climate and Fevers of India. *British Medical Journal*. 1882; 1: 367-369.

²⁵ Fayrer J. Rainfall and Climate in India. *Journal of the Transactions of the Victoria Institute, or Philosophical Society of Great Britain*. 1881; 15: 271-306.

²⁶ Corbett AF. *The Climate and Resources of Upper India, and suggestions for their improvement*. London: WH Allen & Co, 1874. p.104

²⁷ Johnson J. *The influence of tropical climates, more especially the climate of India, on European constitutions*. London: J Callow, 1815. p.114-115.

²⁸ Strong FP. Correspondence connected with the topography of Calcutta and its vicinity. *Quarterly Journal of the Calcutta Medical and Physical Society* 1838; 5: 26-104, especially 31 & 34.

²⁹ Damodaran V. Gender, Forests and Famine in 19th-Century Chotanagpur, India. *Indian Journal of Gender Studies*. 2002; 9: 133-163.

their skin and their form. If rigorously enforced it makes it impossible for a male doctor to examine such a patient adequately. However, Fayrer was opposed to the notion of women doctors, even in an observant household. On one occasion Fayrer prescribed on the basis of a physical examination which had been limited to examining the pulse when the lady's hand was held outside the curtain and on another it required five visits over five days before he was able to examine the lady's abdomen which was swollen by ascites.³⁰

His claims that he had never been refused adequate access and that male doctors were admitted freely to purdah houses in India was disbelieved by many of his colleagues.³¹ This was especially true of British lady doctors of whom there were increasing numbers in India, where they met with the same prejudices as they had in Britain and who therefore had a vested interest in building as large a female practice as possible.^{32 33}

Venereal disease in the British Army in India

Three Contagious Diseases Acts were introduced in Britain in the mid-1860s with the intention of reducing the very high prevalence of sexually transmitted diseases among soldiers and sailors. Known and even suspected prostitutes in specified garrison towns and ports could be subjected to physical examination and, if considered to be venereally infected, could be detained for compulsory treatment for up to three months. This represented a very considerable intrusion by the State into an individual's civil liberties and, after considerable and sometimes acrimonious debate, the Acts were repealed in 1886.³⁴

A similar Act was introduced in India in 1868 where the potential sensitivities were even greater because the great majority of those detained were Indians.³⁵ Moreover this was only ten years after what used to be termed the Indian Mutiny but which is now more appropriately known as the Indian Rebellion (1857-59).³⁶ Opposition led to the Act's repeal in 1888 but it was, to all intents and purposes, replaced the next year by revisions to the Cantonment Acts and compulsory examinations continued until 1900.³⁷

³⁰ Fayrer. *Recollections*, 1900, (Note 13). p.105-107.

³¹ Lal M. The Politics of Gender and Medicine in Colonial India: The Countess of Dufferin's Fund, 1885-1888. *Bulletin of the History of Medicine*. 1994; 68: 29-66.

³² Haskew JL. Sir Joseph Fayrer and Zenana work in India. *British Medical Journal*. 1895; 2: 1527.

³³ McReddie GD. Women and the Profession in India. *Lancet*. 1896; 1: 197.

³⁴ Walkowitz JR. *Prostitution and Victorian Society: Women, Class, and the State*. Cambridge: Cambridge University Press, 1982. p.67-148.

³⁵ Hodges S. 'Looting' the Lock Hospital in Colonial Madras during the Famine Years of the 1870s. *Social History of Medicine*. 2005; 18: 379-398.

³⁶ Indian Mutiny. Britannica. <https://www.britannica.com/event/Indian-Mutiny>

³⁷ Harrison. *Public Health in British India* (Note 22). p.72-76. Cantonments in British India were areas which housed British civilian populations and often also British Army personnel. Indians were only allowed into these areas as servants or, in the present context, as prostitutes.

Fayrer thought that the Act could have had only a very limited effect in India but Sir William Moore (1828-96) of Bombay thought repeal of the Act to be ‘a display of ignorance almost unparalleled’ and asked ‘how much longer is the health of the Anglo-Indian Army to be undermined at the instance of agitators’.^{38 39}

Whereas the British Acts applied only in specified ports and garrisons, the Indian Act applied nationally although it was enforced with varying degrees of strictness in different parts of India. Those who were most affected were the prostitutes who were cast as the carriers of the diseases and subjected to moral and religious strictures by the British and bribery by Indigenous policemen. As in Britain those found to be infected with a sexually transmitted disease could be confined in ‘Lock Hospitals’ until considered cured.^{40 41}

Although the function of the Lock hospitals in India was primarily punitive, some prostitutes incorporated them into their struggle for survival during the famine years of the 1870s.⁴²

Pilgrimages

In a country where cholera was endemic it was inevitable that pilgrimages involving the mass movements of many thousands, occasionally even millions, of pilgrims sometimes triggered both limited outbreaks and full-blown epidemics.

Hindu pilgrimages within India posed a problem only for the Indian and, to a lesser extent, for the British governments, but Muslim pilgrimages outside India, and especially to Mecca in the Hejaz region of Saudi Arabia, generated international concerns and controversies, especially after the opening in 1869 of the Suez Canal which was viewed by most European countries as the barbican which cholera must not be allowed to breach.^{43 44}

For reasons of trade and servicing its Eastern Empire, it suited both the British Government and the British Government in India to adopt an anti-contagionist stance which allowed them to argue that quarantine was unable to prevent the spread of cholera and therefore unnecessary. Other countries disagreed and Indian pilgrims travelling to

The Cantonment Acts which regulated life within these areas provided a convenient vehicle in which to enshroud the functions of the earlier Contagious Diseases Act.

³⁸ Anon. Sir Joseph Fayrer on the repeal of the Contagious Diseases Act. *The Shield*. 1 October 1898, p.160.

³⁹ Moore W. The necessity of re-establishing the Contagious Disease Act in India. *Lancet*. 1892; 2: 218-219.

⁴⁰ Wald E. *Vice in the Barracks: Medicine, the Military and the Making of Colonial India, 1780-1868*. Basingstoke: Palgrave Macmillan, 2014. p.14-30

⁴¹ Harrison. *Public Health in British India*, 1984 (Note 22). p.72-76.

⁴² Hodges. ‘Looting’ the Lock Hospital, 2005 (Note 35).

⁴³ Harrison M. Quarantine, pilgrimage, and colonial trade: India 1866-1900. *The Indian Economic and Social History Review*. 1992; 29: 117-144.

⁴⁴ Hamlin. *Cholera: the biography*, 2009 (Note 9). p.142.

Mecca were subjected not only to the extra expense entailed in quarantine but to detention in conditions which were often so appalling as to result in deaths.⁴⁵

However, even the Hindu pilgrimages within India were fraught with problems. The Anglo-Indian argument against quarantine had been weakened by the use of land quarantine or cordons involving pilgrimages within India. Whenever the health of a part of the British Army was threatened by cholera, issues about security trumped all other considerations and some form of quarantine was often imposed. Even when land quarantines or cordons were not imposed, the permitted route of the pilgrims was sometimes altered, often resulting in a lengthened journey and their exclusion from towns and cities so that they were directed along open country or forest routes where there was little opportunity to find food, water or shelter. As a sanitarian anti-contagionist Fayrer was vehemently opposed to both quarantine and land cordons.⁴⁶ The British authorities in India complained that pilgrims failed to use the sanitary facilities provided at the pilgrimage sites but the pilgrims argued that the facilities were often insufficient or lacked privacy or were located at some distance from the main site.⁴⁷

The advent of railways and steam ships had greatly reduced travel times making pilgrimage more accessible so that many more pilgrims made the journeys but often in accommodation which was grossly overcrowded. However, the authorities were powerless to prevent pilgrims from travelling or to limit their numbers as this would have been seen as an infringement of religious and civil liberties. In consequence, many pilgrimages were humanitarian and political disasters.⁴⁸

European life in an Indian climate

A belief that the unique Indian climate was fundamental to disease in India raised important concerns about the possibility of permanent colonisation of the country, and it also had significant implications for the lifestyles of those Europeans living in India.⁴⁹ These were subjects on which Fayrer wrote extensively.

Acclimatisation

Until the end of the eighteenth century acclimatisation was generally thought to be feasible.⁵⁰ Thereafter, however, attitudes started to change in English colonies.⁵¹ As

⁴⁵ Mishra S. Beyond the bounds of time? The Haj pilgrimage from the Indian subcontinent, 1865-1920. In: Pati B, Harrison M (ed). *The Social History of Health and Medicine in Colonial India*. London: Routledge, 2009. p.31-45, especially p.34-35.

⁴⁶ Fayrer J. *The Natural History and Epidemiology of Cholera, being the Annual Oration of the Medical Society of London, May 7, 1888*. London: J & A Churchill, 1888: 71 p.53-71.

⁴⁷ Prior K. *The British Administration of Hinduism in North India, 1780-1900*. PhD Thesis, University of Cambridge, 1990. p.180-195. <https://core.ac.uk/download/pdf/1336846.pdf> (accessed 26 October 2023).

⁴⁸ Mishra. *Beyond the bounds of time?* 2009 (Note 45).

⁴⁹ Harrison. *Public Health in British India*, 1984 (Note 22). p.54.

⁵⁰ Lind J. *An essay on diseases incidental to Europeans in hot climates: with the method of preventing their fatal consequences* 6th Edition London: J & J Richardson, 1808. p.171-172.

⁵¹ Harrison. *Public Health*, 1984 (Note 22). p.37-51.

early as 1815 the naval surgeon James Johnson (1777-1845) had started to question the feasibility of acclimatisation and therefore of colonisation, and he suggested that the descendants of the original colonists would become degenerate.⁵² Opinions about the possibility of acclimatisation had become more pessimistic by the 1820s and they became even more so over subsequent decades. Concerns about physical and mental degeneracy became ever more prominent and, according to pathologist William Aitken (1825-92), William Twining (1790-1835) considered that it was impossible to find an example of the third generation of unmixed European stock.⁵³ Noting that this change coincided with the consolidation of colonial rule and with an increasing emphasis on racial differences, the historian Mark Harrison observed that to have admitted the possibility of acclimatisation in these circumstances might have undermined the fundamental distinction between the rulers and the ruled.⁵⁴ There was also statistical evidence which appeared to refute any possibility of tropical acclimatisation. For example, AS Thomson (1816-60), an assistant surgeon in Poona, used information from official reports to show that mortality among Europeans increased progressively with every additional year of residence in the tropics and this was confirmed in 1864 by the Report of the Royal Commission on the Sanitary State of the Army in India.^{55 56}

In 1873 Fayrer did not believe that acclimatisation sufficient to allow widespread colonisation could ever occur, but he admitted that this was an impression for which he had no hard evidence.⁵⁷ By 1900 he was more positive and suggested that the European might 'take root, thrive and propagate his race' in the hills, although he recognised that sufficient time had not yet elapsed to prove whether permanent colonisation would be possible.⁵⁸

Self-help and lifestyle

If the European could not adapt physically to the Indian climate then alternative strategies had to be adopted to mitigate its effects. Although doctors like Fayrer emphasised the important role of sanitation and sanitary engineering in India, he followed the long-standing advice of doctors in the IMS that a healthy lifestyle coupled

⁵² Johnson J. *The Influence of Tropical Climates, More Especially of the Climate of India, on European Constitutions; and the Principal Effects and Diseases thereby Induced, their Prevention and Removal, and the Means of Preserving Health in Hot Climates Rendered Obvious to Europeans of Every Capacity*. 2nd Edition. London: J Callow, 1815. p.2-3.

⁵³ Aitken W. *The science and practice of medicine, Vol. 2*. London: Charles Griffin, 1872. p.1220. Twining's original statement has not been discovered.

⁵⁴ Harrison M. *Climates and Constitutions: Health, Race, Environment and British Imperialism in India 1600–1850*. Oxford: Oxford University Press, 2002: p.18-19.

⁵⁵ Thomson AS. Could the natives of a temperate climate colonize and increase in a tropical country and vice versa. *Transactions of the Medical and Physical Society of Bombay*. 1843; 6: 112-138, especially 113–118.

⁵⁶ Great Britain. *Report of the Royal Commission on the Sanitary State of the Army in India: with abstract of evidence, and of reports received from Indian military stations*. London: HMSO, 1864. p.69-70.

⁵⁷ Fayrer J. *European Child-Life in Bengal*. London: J & A Churchill, 1873. p.31.

⁵⁸ Fayrer J. An address on the hill stations of India as Health Resorts. *British Medical Journal*. 1900; 1: 1393-97.

with sensible precautions against heat and dirt could mitigate the effects of climate.⁵⁹ For example, he advocated the use of appropriate headwear and of umbrellas to protect against the sun, and the use of underwear made of soft flannel or light wool which was believed to help stabilise the body temperature and to protect against chills. He also advised against excessive consumption of meat, alcohol and tobacco. Advice about alcohol and tobacco were perhaps based as much, if not more, on traditional views of Christian morality as on scientific evidence.⁶⁰

There were conflicting views about whether there were any potential benefits for Europeans from following an Indigenous diet. Some thought that the European should eat a diet which resembled that of the Hindu but without as much rice and others that the diet should be intermediate between that of the Hindu and European.⁶¹ As with alcohol and tobacco, Fayerer advised moderation in all things and cautioned that the European gut was no more able to absorb sufficient nutrients from an Indian diet, even if the diet contained ample nutrition, 'than it was from the blubber which nourished an eskimo'.⁶²

As a corollary, it is now well recognised that Indians who are able to afford a Western diet, whether in a western country or in India, have an increased risk of diabetes mellitus, but as far back as 1871 the editor of the *Indian Medical Gazette* believed that 'among the upper and middle classes of natives in Calcutta, almost every family had lost one or more of its members from diabetes'.⁶³

Hill stations

As nothing could be done about the Indian climate it was important to identify those places with the most harmful climates, usually in the plains, and those which were least detrimental to European health. Initially there was great optimism about the potential benefits of hill stations.⁶⁴ However, this had waned by mid-century as it became apparent that, although the heat itself was less oppressive at altitude, there were other conditions caused by altitude itself, most notably solar damage and respiratory disease, together with a miscellany of other conditions.⁶⁵ Ultimately a majority consensus emerged that, while hill stations could often preserve existing levels of health, they were rarely curative once disease was present.⁶⁶

After the rebellion of 1858 there was less reliance on Indian troops and an increase in British troops. Many of the latter were stationed in hill stations because it was believed

⁵⁹ Fayerer J. *On Preservation of Health in India*. A lecture addressed to the Royal Engineering College at Cooper's Hill. 2nd Edition. London: Kerby and Endean, 1880. p.13.

⁶⁰ Fayerer. *On Preservation of Health*, 1880 (Note 59). p.14-15 & 21.

⁶¹ Tilt EJ. *Health in India for British women, and on the prevention of disease in tropical climates*. London: Churchill, 1875. p.72-75.

⁶² Fayerer. *On Preservation of Health*, 1880 (Note 59). p.17-19.

⁶³ Anon. Diabetes in India. *Indian Medical Gazette*. 1871; 6: 259-260.

⁶⁴ Young DS. An account of the general and medical topography of the Neelgerries. *Transactions of the Medical and Physical Society of Calcutta*. 1829; 4: 36-78, especially 55.

⁶⁵ Murray J. Practical Observation on the Nature and Effects of the Hill Climates of India. *Transactions of the Medical and Physical Society of Bombay*. 1844; 7: 3-30, especially 6-12.

⁶⁶ Moore WJ. *A manual of family medicine for India*. London: Churchill, 1874. p.455-456.

they would remain fitter there than in the plains. The plan depended on an expansion of the railways so that troops could be moved rapidly from the hills if required.⁶⁷

By the end of the nineteenth century a more positive view of the possibilities of permanent colonisation was emerging as it became increasingly clear that many tropical diseases were not due to climate or locality but to microorganisms. Luigi Sambon (1865-1931), who was later to work at the London School of Tropical Medicine and Hygiene, led the way and was soon supported by Dr (later Sir) Patrick Manson (1844-1922).^{68 69}

Women and children

The British Government wished to encourage British soldiers and government officials to bring their families with them to India because this was seen as essential for permanent colonisation. Furthermore, it was thought that more volunteers would be willing to serve in India if they could bring their families with them and that the high reliance on prostitutes and consequent high prevalence of venereal diseases, especially among soldiers, would be reduced. All of these hopes depended on soldiers and officials believing that life in India was safe for their families but the evidence was not encouraging. British maternal mortality in India was higher than in Britain, mainly due to post-partum haemorrhage rather than to puerperal sepsis but also with contributions from tetanus and dysentery.^{70 71} Fayrer also described problems with lactation.⁷² No specific mention has been found of women's illnesses in relation to hill climates and it seems probable that these problems were predominantly a feature of life in the plains. DS Young, (dates unknown) a Madras surgeon, even remarked that those women who had previously been infertile often conceived after they moved to the hills.⁷³

There was general consensus that those European children who were born and brought up in the plains of India fared badly, as regards both morbidity and mortality but there was uncertainty about the benefit of hill life for these children. Fayrer showed that the problems of life in the plains could be greatly mitigated and perhaps even eliminated. Thus his review of the statistics of the European Female Orphan Asylum in Calcutta for the years 1863–68 showed that, under proper hygienic conditions and

⁶⁷ Kennedy D. *The Magic Mountains: Hill Stations and the British Raj*. Berkeley: University of California Press, 1996. p.14, 16-17, 148, 156, 160 & 173.

⁶⁸ Sambon L. Remarks on the possibility of the acclimatization of Europeans in tropical regions. *British Medical Journal*. 1897; 1: 61-66.

⁶⁹ Stephens JWW. Manson, Sir Patrick (1844–1922). *Oxford Dictionary of National Biography*. Oxford: Oxford University Press, 2004; www.oxforddnb.com/view/article/34865 (accessed 28 October 2023).

⁷⁰ Mackinnon K. *A treatise on the public health, climate, hygiene and prevailing diseases of Bengal and the north-west provinces*. Cawnpore: Cawnpore Press, 1848. p.382.

⁷¹ Tilt. *Health in India for British Women*, 1875 (Note 61) p.60-61.

⁷² Fayrer J. Health in India. In: Morris M (ed). *The Book of Health*. London: Cassell & Co. Ltd., 1884. p.913-958, especially p.954.

⁷³ Young. *An account of the general and medical topography of the Neelgerries*, 1829 (Note 64). p.36-78, especially p.62.

careful physical training, the European child could live and thrive in the plains of Bengal almost as well as in its native country.⁷⁴

Fayrer attributed the asylum's good results mainly to the 'excellent hygienic arrangements' and also to the 'moral as well as physical discipline' in the home. Other studies were less encouraging.⁷⁵ If the benefits, or otherwise, of the hill stations for raising children could not be definitely determined by the quantitative data, then it became a matter for individual opinions. However, there was no consensus.

There was a further option for those who could afford to send their children back to Britain, either to be looked after by a relative or friend or by a paid carer. This was advocated by Fayrer and others who argued that even if the child remained physically healthy in a hill station there was still a serious risk to its moral upbringing by exposure to Indian servants.⁷⁶ Because the children spent more time with the servants than with their parents, they often learned Urdu or Hindi before they could speak English and so, when they did speak English, as Fayrer and others observed, they often did so with the lilt, intonation and syntax of an Indian.⁷⁷ Kenneth Mackinnon (1804-61), a surgeon in Cawnpore, was quite explicit when he wrote that: '... no doubt a very rational and intelligent being may be reared there [in the hill stations]; but he will not be an Englishman, nor a Scotchman, nor an Irishman, or so good a man in mind or body as either'.⁷⁸ Acclimatisation and physical health were no longer the only considerations. There was now also the perceived need to maintain barriers between the governors and the governed and by the even more fundamental question of national identity and of the conditions which defined Britishness.

Conclusion

Although there is already a large literature on life and health in nineteenth-century India it is evident from this short survey of a limited range of topics that there is ample scope for further research. Ever increasing availability of digitised newspapers and journals in the English language and existing availability of memoirs and biographies by contemporary doctors offer the potential to explore the subject more fully.

⁷⁴ Fayrer J. Sanitary Report of the European Female Orphan Asylum for the past six years commencing January, 1863. *Indian Annals of Medical Science*. 1870; 26: 105-145.

⁷⁵ Great Britain. *Annual Report of the Sanitary Commissioner with the Government of India, 1881*. Calcutta: Superintendent of Government Printing, 1882. p.51-52.

⁷⁶ Fayrer J. *European Child-Life*, 1873 (Note 57). p.30.

⁷⁷ Buettner E. *Empire Families: Britons and Late Imperial India*. Oxford: Oxford University Press, 2004. p.41.

⁷⁸ Mackinnon. *A treatise on the public health*, 1848 (Note 70). p.21.

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