A mission for medicine : Dr Ellen Farrer and India 1891-1933.

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Abstract

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The history of the British in India is a tapestry already richly woven, but the life and career of Ellen Farrer is a vibrant strand of colour which adds character and texture to the general finish. The thesis is not a biography, but an attempt to visualise the reality of medical service in British India and to explore the true nature of European survival in a foreign land. Generalised and ambitious histories have depicted European life in India as a civilised enclave amid a barbarous and backward society, while the apologists of Empire have variously held up technological improvement, economic advance, educational enlightenment and western medicine as undisputed bounties of British dominion. Of all these, medicine has been regarded as a gift of inestimable value, untainted by the colonial sub-text. This thesis, therefore, seeks to scrutinise received wisdom and to share a vision of India to discover how far historical perception is reflected in individual experience. The vision is Ellen's. Her legacy of documentation resides in dusty splendour in the Angus Library at Oxford, and comprises archive boxes full of closely written engagement diaries, a collection of letters written to her sisters over the course of her sojourn in India, sundry papers and drafts of speeches, and a miscellaneous cache of correspondence. Articles provided for *The Missionary Herald* have also been plundered for their resource. The thesis begins with an examination of the wider picture, focusing on the emergence of medical education for women, the development and organisation of the British medical profession and colonial medical services, the history of western medicine, science and therapeutics, the birth of the medical missionary movement, Indian climate and ecology, and the British response to indigenous culture. The latter half of the thesis embodies the perspective of Ellen Farrer, and elicits a colourful sketch of life and medical practice on the boundaries of British India. The degree to which this sketch typifies the wider experience depicted in contemporary accounts and retrospective analysis is considered alongside the elucidation of life at Bhiwani. Ellen's vision, idiosyncratic and intimate, is a rare glimpse at the naked face of colonialism and a still rarer peek behind the veil of Indian society.

No part of this work has previously been submitted for a degree in this or any other university.

Contents

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Table of Abbreviations

AMW	*Association of Medical Women*
AMWI	*Association of Medical Women in India*
BMA	*British Medical Association*
BMS	*Baptist Missionary Society*
BZMS	*Baptist Zenana Missionary Society*
CMS	*Church Missionary Society*
IMS	*Indian Medical Service*
LMS	*London Missionary Society*
LSMW	*London School of Medicine for Women*
LSTM	*London School of Tropical Medicine*
MBBS	*Bachelor of Medicine, Bachelor of Surgery*
MMA	*Medical Mission Auxiliary*
NIA	*National Indian Association*
SAS	*Sub-Assistant Surgeon*
SPCK	*Society for the Propagation of Christian Knowledge*
SPG	*Society for the Propagation of the Gospel in Foreign Parts*
WMS	*Women's Medical Service*
ZBMM	*Zenana Bible and Medical Mission*

List of Illustrations

Introduction

'Fill full the mouth of famine
And bid the sickness cease'.[1]

Small, frail, demurely poised and eminently European, Dr Ellen Farrer appears wholly unsuited to the harsh climate and taxing labour of a medical mission on the outskirts of British India. Yet this woman, who stares from her photographs through round steel framed glasses, attired in uncompromisingly English style and with her hair severely coiffured, sailed for India in 1891 with no knowledge of the language and little of what awaited her. Forty-two years later she sailed home, even more fragile, leaving a flourishing medical practice and a magnificent hospital behind her. The story of Ellen Farrer is remarkable not only for her pioneering career, but for her personal strength and unfailing determination to serve. The purpose of this thesis is not, however, to provide a biography of Dr Farrer, although she is certainly a worthy subject, but to use her career, her life and her writing as a basis to discover the reality of medical practice in Imperial India. To that end, the thesis is divided into two parts. The first describes the context and history of medical education for women and the development of western medicine, the growth of science and the development of the colonial medical profession, the emergence of medical missionaries and the pathology of the Indian continent, and the attitude of English imperialists to their new possession. The grass roots reality of medical service in India is then viewed through the eyes of Ellen Farrer, exploring not only the practicalities of therapeutics but also the day to day survival of an English lady in an unfamiliar land. Access to such a perspective is rare, and the written legacy of Dr Farrer is every bit as precious as the hospital she founded in Bhiwani.

[1]From Rudyard Kipling. 'The White Man's Burden'.

The aim of the study is to explore aspects of experience as depicted by both contemporary writers and commentators and later by historians, and to contrast this perceived and generalised picture with the reality as revealed by Ellen Farrer. The history of women's struggle for medical education came to fruition only a decade and a half before Ellen Farrer enrolled at the London School of Medicine for Women and although her diaries do not include any reference to her time there, her speeches and articles do provide insight into the difficulties still surrounding the choice of a medical career by women. Her commitment to evangelicalism and medical missionary work necessitates an examination of the birth of missionary enterprise in India and, more particularly, the establishment of *medical* missions - as well as an appreciation of the additional problems raised by female endeavour in such a field. Colonialism has been extensively analysed, and the Indian experience has benefited from a particularly strong depth of study. However, medicine and science have been less fully explored than other aspects of the British impact, although this has been redressed at least in part by the work of Mark Harrison and David Arnold. The history of medicine in the west and in India are vital components for understanding and interpreting Ellen's attitudes, experiences, behaviour and philosophy, as is an appreciation of the impact of British organisation and technology on the ecology and culture of India's land and people. In order to provide a comprehensive background to the life and letters of Ellen Farrer, these various avenues have been explored with the use of contemporary material *and* historical analysis. The latter is necessary to provide an objective view of the perceived reality. The evidence contained in the Farrer archive is then used to determine the truth of both contemporary perspective and historical analysis. Whenever possible, Ellen's attitude to, or experience of, the specific issues expounded in the first sections of the thesis is elucidated.

The manuscript material is contained in the Baptist Missionary Society collection held by the Angus Library, Regent's Park College in Oxford. It comprises several boxes of engagement diaries crammed with tiny writing which reveal not only aspects of medical care and the native community, but also Ellen's daily life, attitudes and emotions. A larger diary contains what is probably the mission 'log' in which are entered details of the arrival and departure of personnel, items of interest in the hospital or local community, and references to the BMS activities. In addition, there is a collection of letters written to her sisters from 1917-1933, in which she describes selected events more fully and which elucidate her attitudes with more clarity than the brief diary summaries allow. Another box holds a sheaf of reports and speeches written by Ellen for the BMS, the LSMW and the AMWI, as well as some case notes, letters from patients, her certificates and medals, and the booklet written to commemorate the 50th anniversary of the Farrer hospital. *The Missionary Herald* also contains articles written by Ellen and other members of the Bhiwani staff about the work of the mission. In total, it provides an almost comprehensive record of 42 years of medical work, missionary labour and personal experience. However, the statistical registers of the clinic and hospital are not included in the archive, nor are the hospital and dispensary records, so the details of medical cases and care have had to be culled from the notations in Ellen's personal and clinic diaries. Nevertheless, the information is more than adequate to piece together an, if not vivid then certainly colourful, picture of a life in India.

In total, the hope is to produce not only a unique portrayal of a pioneering life, but also to add to the vision and perspective of colonial and medical history. Ellen was *not* the first to breach the dam of medical education for women, nor even the *first* female medical missionary - although she *was* the first medical missionary of either

sex engaged by the BMS - but she was a pioneer in that her career took her into an uncolonised area of India and an uncharted territory of experience. She may not even have been especially remarkable, although it is hard to believe there were very many like her, but her uniqueness stems from the record she left behind. Her portrayal comes not from an autobiography in which much may be misremembered or altered to flatter the ego or suit the cause, but from a chronological continuation of correspondence and a personal archive of memory. Such legacies are rare and precious.

Chapter One

THE STRUGGLE FOR EQUAL STATUS: WOMEN AND THE NINETEENTH CENTURY MEDICAL PROFESSION.

In the course of the nineteenth century there were significant and dramatic changes in the world of medicine, both in scientific and organisational terms, but even by the end of the century opportunities for women continued to be restricted to the traditional roles of supplementary care.[1] Such women as entered medicine were likely to be found swelling the ranks of the new profession of nursing[2] or attending home births[3] rather than walking the wards, consulting in Harley Street or even just serving as a licensed practitioner of medicine. The route to qualification as an MD

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[1]For centuries women had in fact practised conventional medicine and surgery and been accepted in their communities by all classes. However, by the eighteenth century, they were waning in number and, by the mid-nineteenth century, had entirely disappeared. This is because the move to urbanisation, the improvements in transport and the increase in apothecaries, meant that even those in the country districts had quick access to a qualified practitioner. Also, the educated middle classes did not take the surgeonness seriously, regarding her as a figure of fun and a quack, an attitude legitimised by the exclusion of all women from the Medical Register and formal medical training. Wyman, A L. 'The Surgeonness: The Female Practitioner of Surgery 1400-1800'. *Medical History.* Vol. 28, (1984). pp. 22-42.

[2]*Dictionary of National Biography - The Twentieth Century 1901-11.* pp. 15-18. Florence Nightingale was a formidable force in nineteenth century nursing. She single-handedly turned the putrid, disease-ridden hovels of the Crimea into clean, well-aired, sanitary hospitals in which the wounded and sick were cared for with compassion and common sense. Her achievement was less in the field of medicine than in organisation, and on her return to Britain she involved herself in campaigning for changes in the sanitation and hospital provision of the Army, the sanitary campaign in India, and in giving advice and counsel to home and foreign Governments on healthcare. She had no direct involvement in the management or training at the Nightingale School of Nursing, established in her honour in 1860, but it was as a result of her influence, example and reputation that nursing rose from being a menial occupation to an honoured vocation in which gentlewomen could be proud to serve.

[3]Bynum, W F. *Science and the Practice of Medicine in the Nineteenth Century.* (Cambridge, 1994). p. 206; Smith, F B. *The People's Health 1830-1910.* (London, 1990). p. 45. Another traditionally female medical role, that of midwifery, was eventually regulated and licensed in 1902, securing it as a separate and predominantly female occupation. The lack of licensing for midwives throughout the nineteenth century did not eradicate their practice since they were cheaper than the doctor - although less fashionable. In contrast, midwifery in the United States had been captured by the male practitioners of obstetrics.

remained a formidable struggle for women, and even when education *was* available, the opportunities for subsequent viable employment were severely restricted.

In 1858 the Medical Act[4] was passed which sought to regulate and unify a fractured and confused profession. The three tier hierarchy remained,[5] although developments in medical techniques and the discovery of new drugs meant that the divisions between the top two echelons had become one of tradition rather than merit by the end of the century - and indeed, much before then. The days of heroic amputation and savage surgical intervention performed in a desperate race to remove a tumour or sever a limb before shock or trauma removed the patient, were banished by the advent of anaesthesia; whilst the formidable demons of septicaemic infection, gangrene and other hazards were exorcised by Listerine antisepsis.[6] Surgery became a relatively reliable and increasingly sophisticated craft which commanded respect and eventual equality with the physicians. The derisive designation of 'Mr' rather than 'Dr' for a surgeon became one of quaint and honourable tradition.

Indeed, the science of physic developed comparatively slowly. Real advances came mainly in the diagnostic realm, with the advent of specialised instruments, like the ophthalmoscope (1850), laryngoscope and stethoscope (1816),[7] and with the birth of bacteriology and other allied sciences which identified and classified the

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[4]The Medical Act. (1858) 21 & 22 Victoria, c. 90. This Act created the General Council of Medical Education and Registration (later the GMC) which sought to license the individual doctors and approve medical schools. The Council was composed of doctors appointed by the professional societies and academic institutions, thus retaining control of the profession among the elite. This act of unity actually created new divisions based on social and economic lines.

[5]Traditionally, the physicians were regarded as being at the pinnacle of the profession, followed by the surgeons and lastly, by the surgeon-apothecaries.

[6]Digby, A. *Making a Medical Living.* (Cambridge, 1994). p. 96; Bynum. *Science and the Practice of Medicine.* p. 222.

[7]Digby. *Medical Living.* p. 96.

organisms responsible for specific diseases.[8] However, although the cause of malaise could be confidently asserted by the physician, the therapeutic ability of the doctor remained far behind the theoretical.[9] In any case, these diagnostic advances were restricted to the specialists working in the hospitals and laboratories, and the diffusion of scientific knowledge to the general practitioner was slow and erratic.[10] The GP continued to rely on a good bedside manner to defeat disease, rather than investing in new-fangled instrumentation which might make little difference to the actual outcome of the disease.[11]

The Act of 1858 licensed and regulated the profession, providing a Medical Register which only those practitioners with recognised qualifications, gained in Britain, were eligible to enter.[12] Whilst the Act did not prohibit quackery,[13] it gave the medical profession a means of separating the trained practitioner from the charlatan, and allowed them to acquaint the public with the qualifications of the reputable and the lack of such in the disreputable. In addition, the non-licensed, non-registered practitioners were excluded by the Medical Act from holding any public appointment - such as in public hospitals, infirmaries and dispensaries, even if partially supported by voluntary contributions; in gaols or workhouses or attached to any Friendly Society. This meant that, in fact, the 'quack' was edged out of the most lucrative and influential forms of medical practice in the community, since

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[8]Bynum. *Science and the Practice of Medicine.* p. 129; Rosser Matthews, J. 'Major Greenwood versus Almroth Wright: Contrasting Visions of "Scientific Medicine" in Edwardian Britain'. *Bulletin of the History of Medicine.* Vol. 69, (1995). pp. 30-43. Bacteriology developed in the latter nineteenth century, and, although important in promoting the understanding of the mechanisms of disease, it was not of therapeutic value until much later.
[9]Digby. *Medical Living.* p. 96.
[10]Bynum. *Science and the Practice of Medicine.* p. 221.
[11]Digby. *Medical Living.* pp. 77 & 97.
[12]Waddington, I. *The Medical Profession in the Industrial Revolution.* (London, 1984). p. 136.
[13]Digby. *Medical Living.* p. 19. This was a source of great dissatisfaction among the medical fraternity who feared that the unlicensed competition impeded the qualified practitioner from making a decent living at his art.

these usually pertained to public office.[14] Nevertheless, in practice, quackery remained a potent force in nineteenth century medicine simply because such attendants were cheaper and more easily available for the poor and the desperate.[15] For the poorest sector of the population, the doctor was a last resort, reserved for a particularly troublesome labour or very serious illness.[16] The tightening of the entrance qualifications for full license and registration as an MD made the profession more select, but also made it more elitist; and whilst the intention of the 1858 act had been to unify the profession, it had inadvertently caused a new rift to develop between the London elite and the general medical practitioners, one which reflected social status and remuneration, and which caused rancour and further division within the profession.[17] Nevertheless, the Medical council was unable to limit the numbers of licenses granted to qualified entrants, and competition remained fierce at all levels.[18] However, the reputation and social standing of medical men as a whole did improve in this period and there was much concern to exclude disreputable entrants from the profession and to ensure that only those worthy were admitted to the selective societies.[19] The medical establishment was

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[14]Waddington. *The Medical Profession.* p. 148. Anne Digby maintains that many public appointments were very poorly paid but remained competitive because the resident GP wanted to prevent a rival doctor establishing himself in the area. The appointments also guaranteed a certain level of influence and publicity. Digby. *Medical Living.* p. 50.

[15]Waddington. *The Medical Profession.* pp. 149-50; Peterson, M J. *The Medical Profession in Mid-Victorian London.* (Berkeley, 1978). pp. 219-220. The medical market was less clear between 1850-1911. Waddington has found a shortage of qualified practitioners after the passage of the 1858 act, and asserts that this should be evidenced by a buoyancy in medical incomes. However, Peterson finds incomes to be static between 1870 -1911. This may, perhaps, suggest that although qualified medical men were less abundant after 1858, the quacks continued to skim off a considerable portion of the available work and fees.

[16]Digby. *Medical Living.* pp. 44-5.

[17]Peterson. *The Medical Profession.* p. 231.

[18]Digby. *Medical Living.* pp. 43, 36 & 34. An analysis in 1845 discovered over 1 000 entrants annually licensed, where viable economic opportunities existed for less than half the number. Digby contends that competition intensified further in the 1880s.

[19]Waddington. *The Medical Profession.* p. 145; Peterson, *The Medical Profession.* p. 8. The general practitioners wanted non-licensed practice to be made illegal, but the 'consultant' physicians were less concerned about punitive measures since their affluent clientele were not likely to be poached by cheap quacks. Nevertheless, the consultants were keen to have registration, and fellowship of the Royal Colleges continued to be extremely exclusive.

keen to attain the respect and high status of other professions and found it galling that payment was made, not for expertise in medical arts, but on the basis of the drugs supplied.[20] This made doctors into tradesmen in the eyes of Victorian society and as practitioners distanced themselves from the sale of drugs and claimed fees instead for their art and opinion, so the status of the profession rose.[21] This rise was jealously guarded by the formal medical etiquette devised by the elite societies, which stressed the need for genteel behaviour and the observation of unwritten codes. The selling of secret remedies, self advertisement and connections with money-making pharmaceutical companies were all discouraged as being tradesmanlike and not 'professional'.[22] The social status of the individual doctor was important too, for with acceptance into the upper echelons of society came the opportunity to acquire affluent patients. In this endeavour, the doctor could not rely of the auspices of his profession - however genteel - but had, instead, to look to his own cultural attainments, his birth and his independent wealth to carry him into polite society.[23]

However, with all the arguments and agitation about who should and should not be legally permitted to practice the art of medicine, there was one point on which the medical establishment could command virtual unity. Women were not fit to practice. The received wisdom of the day stated that they were too fragile and delicate to weather the vicissitudes and hardship of sustained study, and any attempt to do so leached vital energy from their reproductive systems in order to supplement their overstretched neural capacity.[24] Another such gynaecological argument held

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[20]Peterson. *The Medical Profession.* p. 226. Peterson states that it was difficult for many GPs to cease drug dispensing services since their poor clients expected to be given drugs as part of the fee. Nevertheless, this practice was discouraged by professional associations.
[21]Digby. *Medical Living.* p. 37.
[22]Digby. *Medical Living.* p. 61.
[23]Digby. *Medical Living.* p. 37.
[24]Clarke, Edward H. *Sex in Education.* (1873). This work passed through 17 editions in 13 years.

that 'the physiological condition during a portion of every month' disqualified women 'for such grave responsibilities as medicine'.[25] Study defeminised them. In addition, their delicacy would be offended by the sights, sounds and smells that pertained to medical education - dissection, anatomy, operations - all of which were wholly unfit for the female mind. It would be impossible for them to emerge with any purity left intact.[26] In addition, the *Lancet* launched its own censure against female practitioners, claiming that if women became doctors, the recruitment to the nursing ranks would suffer since 'it opposed the genius of woman's nature to act as helpmate to her own sex'.[27] Nor was the opposition confined to the public domain. The fathers of several early pioneers in female medicine reacted with vituperative apoplexy to the notion of their daughters pursuing medicine. Marie Zakrzewska's father spoke of his grief at her behaviour and urged her to 'return from this unhappy path'; Mary Putnam's father was equally forthright, describing medicine as a 'repulsive pursuit for a woman'; and Elizabeth Garrett's father simply found 'the whole idea disgusting'.[28] Women, *per se*, were excluded from entering the portals of the Royal College of Physicians and the Royal College of Surgeons, and most medical schools would not admit them as students. Prejudice was widespread and hostility deep, but some women determined to storm the barricades. The vanguard of these crusaders consisted of three infamous women who dedicated their lives to the pursuit of equal and fair medical education for females.

Sir Almoth Wright was also a fierce proponent of the biological inferiority of women. Bynum. *Science and the Practice of Medicine.* p. 162.

[25]This quotation was contained in an editorial of the Boston Medical and Surgical Journal of 1856. Reproduced in Morantz-Sanchez, R. 'The Many Faces of Intimacy: Professional Options and Personal Choices among Nineteenth and Early Twentieth Century Women Physicians'. Abir-Am, P and Outram, D. *Uneasy Careers and Intimate Lives: Women in Science 1789-1979.* (New Brunswick, 1987). pp. 45-59. p. 58.

[26]Conan-Doyle, A. *Tales from Medical Life.* (First published London, 1894. This edition, London, 1988). p. 148; Smith. F B. *The People's Health.* p. 238.

[27]*The Lancet.* (17 August 1878); Moore, J. *A Zeal for Responsibility - the struggle for professional nursing in Victorian England, 1868-1883.* (Georgia, 1988). p. 45.

[28]Bonner, T N. *Becoming a Physician: Medical Education in Britain, France, Germany and the United States, 1750-1945.* (Oxford, 1995). p. 210.

Elizabeth Blackwell was the first to qualify, studying in America at Geneva college and graduating in 1849.[29] She then studied midwifery at La Maternité in Paris, with the intention of becoming an obstetrician. However, an accident resulting in the loss of an eye put an early end to this ambition, and she removed to London where she gained permission to study at St Bartholemew's Hospital. She was admitted to the British Medical Register in 1859, but returned to America.[30] Her lectures and publications did much to advertise the value of medical education for women and her example encouraged many, notably Elizabeth Garrett-Anderson.[31] Garrett-Anderson struggled against many obstacles in her pursuit of medical qualification. She was forced to leave the Middlesex Hospital Medical School where she had been unofficially attending lectures, because of the hostility she aroused in her fellow students.[32] She did receive a lot of encouragement from prominent men in the profession, including James Paget and Sir James Young Simpson, but despite such endorsement, she was still unable to gain admittance to a British University to study for her MD.[33] Instead, she was permitted to take the MD examination at the Sorbonne.[34] The Society of Apothecaries, however, had left one chink in their misogynist armour and this was exposed by Dr Elizabeth Garrett-Anderson, who was admitted to the Society examinations and, in 1865, was granted a license to practice by that body. However, her victory was a pyrrhic one, since the Society of

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[29]Bonner, T N. 'Medical Women Abroad: A New Dimension in Women's Push for Opportunity in Medicine 1850-1914'. *Bulletin of the History of Medicine.* Vol. 62. (1988). pp. 58-71. Blackwell was permitted to study at Geneva College, but women were excluded from then on.

[30]Roberts, S. *Sophia Jex-Blake: A Woman Pioneer in Nineteenth Century Medical Reform.* (London, 1993). pp. viii & 72. Elizabeth Blackwell's accident occurred while she was bathing a baby afflicted with gonorrhoea. Purulent matter splashed into her eye, which then became infected and caused her to lose the sight in that eye. The eye later had to be removed to prevent further infection and from then on, Elizabeth Blackwell wore a glass eye.

[31]Manton, J. *Elizabeth Garrett-Anderson.* (London, 1965). p. 52.

[32]Manton. *Elizabeth Garrett-Anderson.* pp. 104-10.

[33]Paget had also permitted Elizabeth Blackwell to study at St Bartholomew's Hospital in 1849. Bonner. 'Medical Women Abroad'. p. 170.

[34]Manton. *Elizabeth Garrett-Anderson.* p. 186.

Apothecaries passed resolutions to prevent any repetition of this achievement.[35] Garrett-Anderson also managed to gain election to the BMA and was the sole female representative there for nineteen years.[36] She and Elizabeth Blackwell remained the only females licensed to practice medicine in Britain before 1877.[37]

The third pioneer was Sophia Jex-Blake, who studied in America under Elizabeth Blackwell in 1868, and on her return to England sought to continue her medical education. She found the way barred. However, her second application to Edinburgh was successful, and she and five others duly matriculated for the study of medicine in 1869, albeit in segregated classes.[38] The women continued to study for three years at Edinburgh, but under increasing duress. They suffered continual hostility and frequent harassment from the male students who sought to have them expelled from the University. The opposition was such that when Edith Pechey won the chemistry prize of £200, the prize was re-allocated to a male student on the grounds that women should not be permitted to use the laboratories. There were also reports of the women being mobbed by male students, and the animosity eventually culminated in a riot aimed at preventing the women from entering the Surgeon's Hall for an anatomy examination.[39] Following this display of enmity and disorder, the women were excluded from the University in 1874, despite a High Court ruling in their favour.[40] Sophia Jex-Blake was not to be denied, and turned instead to the University of Berne where she successfully completed her MD,

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[35]Stansfield, J. 'Medical Women'. *The Nineteenth Century.* Vol. 1, (July 1877). pp. 888-901. p. 889. The Society forthwith excluded from the LSA any person who had not trained in a medical school or who had received any part of their education privately. This successfully barred any woman from the examination.

[36]Manton. *Elizabeth Garrett-Anderson.* pp. 236 & 260. The BMA, having been gulled into the election, quickly followed the example of the Apothecaries by passing a resolution to exclude women.

[37]Bonner. 'Medical Women Abroad'. p. 60.

[38]Stansfield. 'Medical Women'. p. 890.

[39]Lutzker, E. 'Edith Pechey-Phipson, M.D: Untold Story'. *Medical History.* Vol. 11, (1967). pp. 41-6; Stansfield. 'Medical Women'. p. 890.

[40]Lutzker. 'Edith Pechey-Phipson'. p. 42.

graduating in 1877.[41] Jex-Blake had attempted to qualify under the license of Midwifery of the College of Surgeons, but was thwarted by the mass resignation of her examiners. This prompted legislative intervention, and the Russell Gurney Enabling Act became law in 1876. This stated that all medical examining bodies were empowered to examine women, and Sophia Jex-Blake finally gained a license to practice medicine in Britain through the Irish College of Physicians in 1877.[42] Sophia Jex-Blake settled in Edinburgh, and continued to pressure the University to admit women. Her wish was granted in 1894, when Edinburgh University finally admitted women students for graduation in medicine.[43]

All three of these women established schools of medicine for women. Elizabeth Blackwell established the New York Infirmary and College for Women in 1853, and gained a charter for it in 1865;[44] Elizabeth Garrett-Anderson and Sophia Jex-Blake established the London School of Medicine for Women in 1874.[45] America had seen the establishment of several medical schools solely for women - indeed, Elizabeth Blackwell and her sister ran one, but these schools lacked prestige and their very segregation made them targets for scorn and derision. In fact, the education they provided was not of the first quality, a fact admitted by Mary Putnam-Jacobi,[46] but the motivation behind it was to get women into the profession by allowing them to study initially in a supportive atmosphere. As doors gradually creaked open in the older and better institutions, so the women's colleges

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[41]Roberts. *Sophia Jex-Blake.* p. 155.
[42]Stansfield. 'Medical Women'. pp. 893, 894 & 897.
[43]Roberts. *Sophia Jex-Blake.* p. 182.
[44]*Dictionary of National Biography: Twentieth Century 1901-11.* p. 170. Sophia Jex-Blake was one of the first students to enrol in the four year course of study after the charter had been granted.
[45]Jex-Blake, S. 'Medical Women'. *The Nineteenth Century.* Vol. 22, (November 1887). pp. 692-707. p. 694. The requirement for training in a general hospital was met by the admittance of women students to the Royal Free Hospital - the hospital having no male school attached to it.
[46]Bonner. 'Medical Women Abroad'. p.61. In fact, Putnam-Jacobi described the education provided by the Women's school in Boston as 'ludicrously inadequate', and that at Philadelphia as being characterised by 'much zeal but little knowledge'.

disappeared.[47] The energies and sacrifices of the pioneer petticoat doctors served to open the profession to their sisters and the road to medical qualification and practice, whilst remaining strewn with obstacles was, by the end of the century, at least negotiable.

Across Europe the fight for female medical education was joined, and opposition proved to be just as trenchant. France did not permit the registration of women for medical study until Mary Putnam in 1868;[48] Italy, despite its liberal tradition towards female entrants to University, did not allow women candidates to matriculate in medicine until 1876;[49] The Netherlands waited a further two years and it was not until 1878 that Aletta Jacobs became the first woman to graduate in medicine from a Dutch University, and by 1900 only 12 more had followed her lead.[50] Vienna and the rest of Austria maintained a ban on female registration until the end of the century;[51] Germany, supposedly a centre of enlightened medical study, refused to countenance female medical students until 1900, with Prussia reluctantly withdrawing a similar ban only in 1908.[52] However, there was a glimmer of hope in 1864 when the University of Zurich opened its doors to women, permitting them to study in a co-educational environment at a prestigious medical school.[53] The authorities at Berne, Lausanne, Geneva and Paris quickly followed suit and opened a high calibre, equal and respectable route to medical qualification for women.[54] The initial intention of the Zurich faculty had been to explore the

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[47]Bonner. *Becoming a Physician.* p. 294.
[48]Bonner. 'Medical Women Abroad'. p. 60.
[49]Bonner. 'Medical Women Abroad'. p. 60.
[50]Marland, H. '"Pioneer Work on All Sides": The First Generations of Women Physicians in the Netherlands, 1879-1930'. *Journal of the History of Medicine and Allied Sciences.* Vol. 50, (1995). pp. 441-477. p. 443.
[51]Bonner. 'Medical Women Abroad'. p. 60.
[52]Bonner. 'Medical Women Abroad'. p. 60.
[53]Bonner. 'Medical Women Abroad'. p. 62.
[54]Bonner. 'Medical Women Abroad'. p. 62. The courses took 5 years rather than the 9 months study required by the segregated medical schools in America.

contention that women lacked the physical stamina, intellectual strength and resolve to survive the rigours of medical training, and that their male peers would be adversely affected by the introduction of female classmates.[55] However, any scepticism felt by the Zurich tutors was soon overcome by the dedication, talent and earnest demeanour of the first entrants, and they offered encouragement and support to all female students wishing to pursue a medical degree. The professional attitude of the staff at the Swiss universities and their ability and willingness to ignore gender and prejudice and to treat the female students as merely so many more aspiring physicians, set the Swiss apart from their more conservative European contemporaries. It was an attitude that paid dividends, as women flocked to the liberal universities of Switzerland and to Paris,[56] and virtually every nineteenth century female pioneer in medicine had Swiss or Parisian pedigree.[57] Even in 1900, the enrolment of women at the five medical schools of Switzerland exceeded that of the entire continent of Europe, and also exceeded the intake of the 150 medical schools in America open to women.[58] The Swiss example had proven that no terrible harm would ensue to either the women themselves or to their male classmates by the enrolment of female students in the medical education faculties. As early as 1869 the faculty of Wurzburg, either out of curiosity or a desire to emulate, requested information from the Zurich authorities on the performance and effect of women students on the University. The reply stated that the women were less a problem than an asset, and displayed a serious application to work, coupled

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[55]Bonner. 'Medical Women Abroad'. p. 62.
[56]Digby. *Medical Living.* p. 56. Paris had become a Mecca for British and other foreign graduates.
[57]Bonner. 'Medical Women Abroad'. p. 64. Nadezhda Suslova was the first to graduate from Zurich in 1869, and was also the first Russian female doctor; Emilie Lehmus and Franziska Tiburtius and 5-6 others who were the only female licensees in Germany prior to 1894, were also Zurich graduates; Baroness Gabriele von Posanner, the first Prussian to gain a medical license, studied at Zurich - as did all the prominent American physicians, *despite* the ready provision of medical training for women in the US.
[58]Bonner. *Becoming a Physician.* p. 313. By 1914, Bonner estimates that some 10 000 women had left their native countries to study medicine in Switzerland and France. The leading colleges and universities of Britain and America continued to exclude women until the First World War.

with retrospect and tactful behaviour.[59] Wurzburg did not immediately follow suit, but there were a torrent of enquiries from other institutions which suggests that the idea of educating women in medicine was one which generated interest rather than ridicule, and potential emulation rather than derision. This is not to say, however, that there was no opposition or that there was a wholesale rush to embrace the idea of medical education for women. In Germany and England, for example, there were powerful lobbies who remained staunchly and volubly hostile to the idea of female physicians.[60]

However, even by the end of the nineteenth century a woman doctor, armed with her MD and with post-doctoral experience in a reputable or even eminent institution, could find opportunities for employment severely restricted. Arthur Conan-Doyle presents the story of a woman doctor who came to serve as a GP in a small rural community. The other doctor there, a man, was at first highly delighted to discover that a person of high repute and outstanding scholarship was to be his neighbour, for Dr Smith 'had studied with distinction at Edinburgh, Paris, Berlin and Vienna; and been awarded the gold medal and Lee Hopkins scholarship for original research'.[61] That such an eminent and well qualified professional should be working as a GP in a backwater rural district should perhaps have prompted the resident doctor to deduce that Dr Smith was a woman since, even with so brilliant a resumé, her career opportunities were scarce. Conan-Doyle goes on to elucidate the male conservative antipathy to female doctors, saying that 'the man should remain

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[59]Bonner. 'Medical Women Abroad'. p. 69.
[60]Bonner. 'Medical Women Abroad'. p. 69; Bonner. *Becoming a Physician.* pp. 314 & 339-40. The First World War forced a change of heart among the conservative universities, since there was a pressing need for doctors and an insufficient number of young men available for recruitment. Thus, women were enrolled onto the medical courses. Post war reaction resulted in a resumption of exclusion in many institutions, although there was a gradual recovery through the 1930s and an irreversible boost from the similar exigencies of the Second World War.
[61]Conan-Doyle. *'Tales'*. p. 142.

the doctor, the woman the nurse'[62] and at one point causing his character to state 'women are in danger of losing their privileges when they usurp the place of the other sex, they cannot claim both'.[63] He then goes on to aver that the process of medical education robbed women of their purity.[64] Having affronted the resident doctor's notions of decency and propriety by her choice of career, Dr Smith proceeds to add insult to injury by poaching his patients who, at first, come out of curiosity and afterwards out of respect for her skill and knowledge of new techniques and advances.[65] Conan-Doyle obviously believed that the vanguard of opposition was contained within the medical profession, rather than among the general public.

However, even Conan-Doyle, himself a medical man and obviously a supporter of the women's movement, is unable to believe a woman capable of reconciling science and normal family life. He makes his Dr Smith declare herself as remaining true to her own line of biology rather than marriage and sends her off to study in Paris.[66] Sophia Jex-Blake reviewed the entire *genre* of 'the medical woman' in fiction and found an almost universal reference to 'the traditional disappointment' in love as the reason for the heroine's pursuance of a medical career. The implication being that no truly womanly woman would be tempted to such straits![67] Regina Morantz-Sanchez also reviewed nineteenth century fictional tales of medical women, this time written *by* women, and found there too that the incompatibility of medicine with successful marriage was almost universally propounded.[68] These

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[62]Conan-Doyle. *'Tales'*. p. 145.
[63]Conan-Doyle. *'Tales'*. p. 145.
[64]Conan-Doyle. *'Tales'*. p. 148.
[65]Conan-Doyle. *'Tales'*. p. 149.
[66]Conan-Doyle. *'Tales'*. p. 158.
[67]Jex-Blake, S. 'Medical Women in Fiction'. *The Nineteenth Century*. Vol. 33, (February 1893). pp. 261-272. p. 266.
[68]Morantz-Sanchez. 'The Many Faces of Intimacy'. pp. 47-50. Morantz-Sanchez reviewed a volume entitled 'Daughters of Aesculapius' written in 1897 and containing several tales of medical women.

tales underline the prevailing insistence on the incompatibility of femininity with medicine, a theory that remained rife even at the end of the century. In an attempt to debunk this myth, studies in America in 1881 looked at the lives and careers of women doctors, with surveys carried out by Rachel Bodley, Dean of the Women's Medical College in Philadelphia, and by Emily and Augusta Pope and Emma Call of the New England Hospital, Boston.[69] The Pope study found that only 65 of their 390 sample group from across the country had married. Nineteen of them had married doctors and of those who had married, 14 had ceased to practice medicine immediately and 21 stated that their career interfered with their family life.[70] Bodley's survey was more favourable - of her 276 graduates, 129 had married. Seventy-five had married whilst still in medical school and fifty-four after graduation. Of these fifty-four, only 5 had ceased to practice. Bodley received replies from 52 women on the subjects of work and marriage, and 87% claimed to be able to cope successfully with career, marriage and motherhood.[71] Bodley and Pope had, therefore, answered the critics who claimed that such a compromise was impossible, although the evidence they gathered showed that it was far from being universal.[72] The medical women who did not marry often found solace in other kinds of intimacy. Regina Morantz-Sanchez attests that many of them adopted children, often orphaned ex-patients, and a significant proportion formed close bonds with other women, particularly medical colleagues.[73] Some of these relationships were undoubtedly homosexual, but many merely represented the need for emotional support and the intimacy borne of shared experience. Companionship

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Of the four she selects as representative, only one presents a tale of marital and professional harmony and there the woman doctor goes into practice with her husband.

[69] Drachman, Virginia D. 'The Limits of Progress: The Professional Lives of Women Doctors 1881-1926'. *Bulletin of the History of Medicine.* Vol. 60, (1986). pp. 58-72.

[70]Drachman. 'The Limits of Progress'. p. 62.

[71]Drachman. 'The Limits of Progress'. p. 62.

[72]Drachman. 'The Limits of Progress'. p. 63.

[73]Morantz-Sanchez. 'The Many Faces of Intimacy'. pp. 55-58.

was no less important to the pioneers than to their contemporaries, even if the conjunction of a medical career and traditional domesticity proved unattainable.

Employment for women, as stated above, was limited. They were excluded from the BMA until 1892, and from the Royal College of Physicians and Royal College of Surgeons until 1908. They found that their views and professional opinions were not given attention in mainstream journals and were forced to form groups and journals specifically for women. This tended to marginalise them in the same ways as segregated medical education had done.[74] In terms of employment, women found it near impossible to break into the male dominated institutions; they were paid a lesser rate for public health work and other appointments, and many found it hard to practice as GPs, simply because of the hostility of male colleagues to having a female partner. Instead, they had to take assistantships for a negligible salary or for room and board only. In some instances, opposition was more public and more pernicious, as in the case of Miss Murdoch Clark, who was appointed Junior House Surgeon at Macclesfield Infirmary in 1902, but was forced to leave when six honorary surgeons resigned from the Infirmary in protest.[75] Sophia Jex-Blake, however, was confident about the prospects of women establishing themselves in private practice, but insisted that both boldness and realistic expectations were essential pre-requisites for such ventures. Although lacking any statistical evidence for the success of female private practitioners in Britain, Jex-Blake did refer to the Pope study mentioned above, which showed that half of the women surveyed were satisfied with their professional income.[76] Areas of the profession that were

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[74]Digby. *Medical Living.* p. 292.
[75]Digby. *Medical Living.* p. 292.
[76]Jex-Blake. 'Medical Women'. p. 700. Of course, the Pope study also found that most were unmarried and therefore needed only to secure an income sufficient to support themselves, whereas male practitioners generally looked to obtain a family living from similar work. There are, also, the other half who weren't satisfied, although this would include those who had given up work on the occasion of their marriage!

relatively open tended to cluster around the traditionally 'female' areas such as paediatrics and obstetrics (although not gynaecology) and family care.[77]

Nevertheless, for many the struggle to gain the precious license to practice was enough and the further battle for equal opportunity in the workplace was beyond them. Elizabeth Garrett-Anderson underlined the difficulties facing women seeking medical employment when she wrote in 1878 of the need for women not only to equal their male colleagues in terms of attainment and practice, but to excel and surpass them in order to be granted a modicum of equality.[78] One such example was the American ovariotomist, Mary Amanda Dixon-Jones, whose career was a unique triumph in terms of female equality in surgery and medicine. Dixon-Jones was an internationally renowned gynaecologist, whose papers and opinions commanded the respect and interest of her male peers, and whose surgical practice had flourished.[79] Her attainments were, however, singular. No other female practitioner of surgery came close to emulating her, and the reason for this lies not in their intellectual skill or surgical proficiency, but in their unwillingness to subscribe to the pushy, self-proclaiming, aggressive bluster which had aided Dixon-Jones in her climb to the top of the profession.[80] For the most part, women were content to achieve their ambition of professional qualification and then to seek a niche where they would, at least, not be actively opposed.[81] Among those niches

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[77]Bynum. *Science and the Practice of Medicine.* p. 208. Elizabeth Blackwell actually supported and propounded this idea. She believed that women should serve to soften the profession and occupy these niches so suited to them. In fact, the segregated women's colleges meant that women were trained among and by women and learned much of their craft operating and treating women and children - a fact which pushed them toward these very fields. Mary Putnam-Jacobi, on the other hand, campaigned avidly for women to compete on equal terms with men.

[78]Digby. *Medical Living.* p. 18.

[79]Morantz-Sanchez, R. 'Making it in a Man's World: The Late-Nineteenth Century Surgical Career of Mary Amanda Dixon Jones'. *Bulletin of the History of Medicine.* Vol. 69, (1995). pp. 542-568.

[80]Morantz-Sanchez. 'Making it in a Man's World'. p. 568.

[81]This was easier said than done, since opportunities for employment were very scarce. Women who remained in Britain were likely to be marginalised and to end up teaching in women's colleges or practising medicine in an entirely female and paediatric environment. Morantz-Sanchez, 'Making it in a Man's World'. p. 568.

was one which offered not only toleration but positive encouragement and a genuine welcome - Medical Missionary Work.[82] The Zenana missions in particular were eager, not to say desperate, to employ female doctors who could reach out in an evangelical and medical sense to the hidden women of India. The primacy of their work focused on the strict purdah women who were forbidden to consult or even see or be seen by a male doctor. The missions had discovered that medicine was a powerful sweetener with which to tempt and win over the natives and they were eager to exploit it further.

[82]Bynum. *Science and the Practice of Medicine.* p. 208. Foreign service was also limited. With the ban on women studying medicine still operating in many areas of the continent, and the reluctance to grant licenses even to those of their countrywomen who had qualified in Zurich or Paris, the ability of a non-national to set up a medical practice in a foreign country was almost nil. The missions were a lifeline.

Chapter Two

MISSIONARIES, MEDICINE AND THE ZENANA[1] IN BRITISH INDIA.

The emergence of the medical missionary was a decidedly nineteenth century phenomenon.[2] Although the western missionary movement had been flourishing since 1498,[3] the idea of formally integrating medical personnel into the missionary army was not only late in coming, but was greeted with mixed feeling ranging from ambivalence at best to outright hostility. However, even in the early days of 'purely' theological, evangelical missionary work, medicine proved a valuable ally in the drive to free the infidel from the bonds of false religion. In fact, dispensary work, albeit of a basic nature, formed part of the armoury of even the earliest missionaries, although their pharmacological knowledge was somewhat crude.[4] In some cases, they developed skill and sophistication in their treatments, and they were certainly responding to a great need among the native population. Basic medicines worked minor miracles, and this in itself created a legitimacy for the claims of Christianity. By the end of the eighteenth century, there was a huge proliferation of missionary

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[1]'Zenana' means women's quarters, whereas purdah is the practice of seclusion. However, these terms are used interchangeably to denote the tradition of female confinement.

[2]Williams, C P. 'Healing and Evangelism: The Place of Medicine in Later Victorian Protestant Missionary Thinking'. Shiels, W J.(ed.) *The Church and Healing.* Ecclesiastical History Society. (Oxford, 1982). pp. 271-285.

[3]Commission of the Missionary Council of the Church Assembly. *The Call From India.* (London, 1926). pp. 15-16; Laird, M. A. *Bishop Heber in Northern India: Selections from Heber's Journal.* (Cambridge, 1971). p. 2. A Christian Church had existed in India since at least the fifth century, but the Western missionary infiltration did not begin until the Portuguese arrived in India in 1498, with a large contingent of Jesuits among their Fleet. The Roman Catholics took hold in 1542. 1706 saw the advent of Protestant mission activity in India. Although the Roman Catholic Missionary movement was of longer standing than that of the Protestants, and was also flourishing in the nineteenth century, this thesis will concentrate on the Protestant missions, since the focus is on British medicine and imperialism, and the denomination of the British missions to India were not Roman Catholic.

[4]French, W E. *The Gospel in India.* (London, 1946). p. 80. The basic medical philosophy maintained that 'if the trouble is above the waist, give aspirin, if below, castor oil'.

societies plying their trade in Asia, Africa and India, all eager to find legitimate means to increase their success in converting the native population.[5]

Although the first genuine medical missionary began his work in Northern China as an agent for the London Missionary Society in 1838,[6] this did not tempt other societies to follow suit. The LMS, however, built on their success and did send out many such envoys to various centres of operation.[7] During the first 50-60 years of the nineteenth century the services of medical missionary workers were rarely used, but even when they *were* engaged, their role was to tend the regular mission workers who were being sent to especially hazardous locations, rather than to minister independently to the needs of a local native population. Nevertheless, although their primary role was to attend to the needs of the clerical missionaries, they were able to offer succour to any native who required it, and this proved to

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[5]1706 - the establishment of the first modern Protestant mission in India, the international and ecumenical mission at Tamilnad. Mainly German Lutheran, but financed by the English SPCK; the Baptist Missionary Society began operation in India under William Carey in 1793; the London Missionary Society sent it's first missionary to India in 1798; a committee of the Church Missionary Society was formed in Calcutta in 1807; an auxiliary to the British and Foreign Bible Society in 1811; the first missionaries of the American Board of Commissioners for Foreign missions arrived in India in 1812. After 1813, there was an increase in operations, following the renewal (and modification) of the East India Company's charter. Thanks to the pressure brought to bear upon parliament by mission advocates, such as William Wilberforce, the 1813 charter granted the establishment of an Anglican ecclesiastical see, with a bishop and three archdeacons. This, in itself, gave missionary societies tacit permission to work in India, but their existence and practice was further strengthened by other provisions. The first Bishop of Calcutta was Thomas Fanshaw Middleton. The archdeacons took up office in Calcutta, Madras and Bombay - the major trading acquisitions of the English East India Company. 1814 - first Wesleyan Methodist missions; 1821 - New Connexion of General Baptists began operations; 1829 - first missionary of the Church of Scotland; 1833 - Plymouth Brethren from England, and the American Presbyterians; 1835 - American Baptists established their first mission; 1841 - first contingent of the Irish Presbyterian Church Mission. Also that year, the Welsh Calvinistic Methodists arrived. 1856 - the American Methodist Episcopal Church Missionary Society sent out representatives. German and Scandinavian missions were also established by mid-century. Laird, *Bishop Heber.* pp. 2-7; Latourette, K S. *A History of the Expansion of Christianity: The Great Century in Northern Africa and Asia 1800-1914.* (London, 1944). pp. 108-10, 121-8.

[6]Walls, A F. 'The Heavy Artillery of the Missionary Army: the Domestic Importance of the Nineteenth Century Medical Missionary'. Sheils, W J. *The Church and Healing.* Ecclesiastical History Society. (Oxford, 1982). pp. 287-297. p. 290.

[7]Walls. 'The Heavy Artillery'. p. 290. The LMS sent out 80 medical missionaries between 1838 and 1914, out of a total missionary force of 987. 8 into Central Africa, 6 to Madagascar, 2 to the Pacific, 20 to India and 48 to China.

have rewards in the evangelical sphere.[8] For the LMS and, later, the other missionary societies, the main thrust of medical missions tended to be concentrated in places like China and India, where the forces of Christianity were most fiercely resisted and where native religion was both strong and entrenched.[9] In fact, William Lockhart had only become a *medical* missionary because he was unable to overcome the prejudice and hostility of the native population in China with more traditional evangelical methods. As the first Protestant missionary in Northern China, he found that only by opening his house as a centre for free medical treatment had he been able to entice the wary orientals to his 'parlour'. Having gained their gratitude and trust, he was then able to pursue his true vocation and purpose - that of preaching and conversion.[10] China was the principal theatre of operation for many of the early medical missionaries, but by 1860, India was being viewed as a similarly recalcitrant target.[11]

The original focus and rationale of the medical mission was as an adjunct to the main clerical arm of the missionary cause. Termed the 'heavy artillery'[12] of the missionary army, it was able to batter down the walls of resistance where the clerical brethren had failed to make the smallest breach. However, this terminology was and *is* somewhat misleading, since the medical mission was by its very nature covert and stealthy. In effect, it acted as a lure, tempting the natives to attend the mission centres in search of medicinal relief, and once there to expose them to the gospel and the teachings of Jesus.[13] Nevertheless, the success of such men as Lockhart did not overcome the scruples of many evangelists, who still viewed the advent of medical missionaries with suspicion and distaste. This was partly on

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[8]Williams. 'Healing and Evangelism'. p. 271.
[9]Walls. 'The Heavy Artillery'. p. 290-1.
[10]Walls. 'The Heavy Artillery'. p. 290.
[11]Williams. 'Healing and Evangelism'. p. 275.
[12]Walls. 'The Heavy Artillery'. The title of this article, for example.
[13]Williams. 'Healing and Evangelism'. pp. 275-6.

theological grounds, since they believed that anything that distracted from the main objective of spiritual conversion was of negative influence, and they viewed medicine as just such a distraction.[14] There was also a strong belief, in the early years of the nineteenth century, that sin should be eradicated at all cost and that physical well-being on earth was of little consequence - what was important was the salvation of the soul and the preparation of the spirit for the heavenly afterlife. It has also been suggested that some of the clergy were unwilling to embrace the idea of medical missionaries simply because they were hostile to the introduction and elevation of any skills or facets not traditionally held by the clerical envoys.[15] However, even if prejudice or the finer distinctions of theological debate are discounted, there were still general concerns which provoked much wider and more universal discussion. One such issue was the question of the calibre of the individuals applying to take up medical mission work. Before mid-century, the medical community had not yet achieved the organisational sophistication that would allow it to claim, with veracity, the title 'profession'. Thus, the fragmentation and nepotistic nature of the medical world impinged directly on the missionary societies, affecting the quality of the applicants for medical mission work. These candidates were not well established physicians whose reputation and expertise was of the highest pedigree, but, rather, aspiring and discontented surgical practitioners seeking to extend their practice and increase their status by working out in the mission field.[16] Such motivation was unlikely to impress an already sceptical clergy. Moreover, the selection of clerical envoys was rigorous, and it was felt by many of the clerical hierarchy that the medical applicants should demonstrate equal distinction in *their* field.

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[14]Williams. 'Healing and Evangelism'. p. 272.
[15]Williams. 'Healing and Evangelism'. p. 272.
[16]Williams. 'Healing and Evangelism'. p. 272.

At mid-century, then, gainful employment as a medical missionary was hard to find. James Henderson, trained as an MD in Edinburgh, was unable to come by such an appointment in 1858,[17] and indeed it had been calculated in 1852 that only 13 European medical missionaries existed. Of the 307 missionaries recruited by the Church Missionary Society between 1850-71, only seven were doctors. However, this bleak picture was to change dramatically in the last three decades of the nineteenth century. In 1889, there were reckoned to be 60 medical missionaries in India alone, and by 1914, the figure was 335.[18] The general figure was equally improved, with 650 medical missionaries by 1900, the CMS sending out 41 between 1891-1900.[19] The reasons for this upsurge were both organisational and philosophical. The medical profession had achieved a greater measure of respectability and status as a result of reforms to its organisation at mid-century.[20] There had also been scientific advances in both the pharmacological and surgical spheres, which made the profession much better able to combat the diseases and ailments with which it was faced. This, in itself, elevated the status of the doctor, since he was seen to be a competent and successful practitioner, whose services were worth procuring.[21]

On the philosophical side, the idea of medical missionary work had been gradually gaining kudos, and several intellectual arguments had been evolved to support it. In the first instance were the practical benefits outlined before - the ability of medicine to reach out to the heathen native in a way that was beyond the reach of the clerical missionary. However, the nature of the arguments had attained a new level of

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[17]Williams. 'Healing and Evangelism'. p. 271.
[18]Latourette. *History of Christianity.* p. 191.
[19]Williams. 'Healing and Evangelism'. pp. 271-3.
[20]The Medical Act. (1858) 21 & 22 Victoria, c. 90. This legislation created a system of registration and control over the entry into the licensed profession. Although it did not eradicate quackery, it allowed for the distinction between the licensed M.D. and the unqualified practitioner and introduced penalties for falsification of the register and for masquerading as a registered doctor.
[21]Williams. 'Healing and Evangelism'. p. 273.

sophistication by the latter part of the nineteenth century. Not only was medicine a tempting and complementary accessory to the evangelical mission, but it was also justifiable in spiritual and scriptural terms. In fact, it represented a 'return to the Christ type'.[22] Advocates maintained that a predominant part of the work of Christ involved the healing of the sick, both as a purely compassionate gesture and also to provide evidence of his divine mission.[23] Indeed, the stories of Jesus constantly relate the existence of crowds of the sick and ailing who surrounded him, seeking *and receiving* his healing touch.[24] Those requiring literal instruction from the pages of the gospel to justify the existence of medical missions could find it in the words of Christ to his disciples, when he urged them to heal the sick *as well as* preaching the word.[25] The operation of medical missions in the field of conversion is also validated by the gospels, in that Jesus healed the non-believers too.[26]

It was not merely in the theological circles of the missions that the notion of healing as Christianity was taking hold. In fact, the nineteenth century saw a flourishing of Christian philanthropy in England, and this was extended overseas to the burgeoning Empire. Evangelical philanthropy was an offshoot of this philosophical movement.[27] The belief that saving souls was the one and only worthy object of missionary activity began to lose strength, and instead, the idea of alleviating

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[22]Moorshead, R F. *The Appeal of Medical Missions*. (London, 1913). p. 37.
[23]Moorshead. *Medical Missions*. pp. 28-9. Moorshead points out that fully 26 of the miracles of Christ were direct healings, and 3 more were involved with the physical needs of man.
[24]For example, the Gospel of St Luke, chapter 6, verses 17-20, chapter 7, verses 21-4; Gospel of St Mark, chapter 1, verses 29-34; Gospel of St Matthew, chapter 15, verses 30-1.
[25]Moorshead. *Medical Missions*. p. 33. The precise quotation is found in the Gospel of St Mark, chapter 16, verses 15-18.
[26]Gospel of St Mark, chapter 6, verses 5-6.
[27]Williams. 'Healing and Evangelism'. p. 277; Laird. *Bishop Heber*. pp. 4 & 6. The Evangelical movement began to have an effect on religious observance and missionary vigour in India at the end of the eighteenth century. The nineteenth century saw the growing influence of evangelical missionary fervour in the field of education. Latourette dates the emergence of conscience and responsibility toward the colonies (at least in India) at around 1829. Latourette. *History of Christianity*. p. 117.

suffering and providing a worthwhile life of earth began to gain credence.[28] The existence of medical missionaries was thus justified by the operation of healing alone. Nevertheless, there was not a wholesale uptake of medical missionaries, and some societies still maintained a divide between the medical and evangelical brethren. The Wesleyan Methodist Missionary Society, for example, regarded the medical mission as either a secondary and occasional service of the clerical office, *or* as a lure to soothe the subjects into a suitable state to receive the word of the Lord. Those involved in these preparatory manoeuvres were not regarded as 'proper' missionaries.[29] However, among the non-conformist churches the ideals of medical mission work were eagerly embraced. The Edinburgh Medical Missionary Society of 1841 regarded the use of medicine as a demonstration of both Christ's life and ministry, and also of divine compassion.[30] The value of the medical missionary was established by the incorporation of their services into the philosophical framework of missionary activity - not just as a sweetener, but as a genuine reflection of God's work in preaching the gospel by word and *deed.*

As stated earlier, China was already a challenging and important field for missionary activity, but India became an equally key focus by mid-century.[31] Although the early part of the century had seen British encroachment on the Indian sub-continent, this had not opened the gates to full-scale missionary involvement. In fact, the British traders who formed the vanguard of imperialism in India were relatively hostile to the incursion of Christian missionaries. They feared that they would make enemies of the native populace, and thus, alienate them from all

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[28]Williams. 'Healing and Evangelism'. pp. 278-9; Hunter, Sir W Wilson. 'Our Missionaries'. *The Nineteenth Century.* Vol. 24, (July 1888). pp. 14-29. p. 22.
[29]Williams. 'Healing and Evangelism'. pp. 280-1.
[30]Williams. 'Healing and Evangelism'. pp. 281-3.
[31]Hunter. 'Our Missionaries'. pp. 16 & 23. 'India was destined to be the chief field of Missionary labour'.

European activity.[32] Nor were their concerns mere supposition, the Portuguese invaders of the fifteenth century had had spiritual conversion high on their agenda, but had failed to gain many converts or much goodwill.[33] In contrast, during the 1790s and 1800s, the East India Company sought to retain strict control over missionaries by refusing them carriage on their ships and forbidding them from setting up missions or preaching in any of the Company territories.[34] These restrictive powers were, however, weakened when the East India Company charter was renewed in 1813 and 1833. Friends of the Protestant Missionary Societies had lobbied Parliament to modify the powers of the Company in order to obtain greater liberty for the practice of mission work, but although Parliament did have some influence over the behaviour of the East India Company and the policies it pursued, early British imperial action in India was not carried out under the auspices of the Home Government, and the Crown was therefore unwilling and unable to do more than offer minimal persuasion.[35] Nor was the East India Company keen to extend its operation beyond the theatre of trade. It was a vehicle for independent entrepreneurship, aimed solely at securing markets and gaining profit and the acquisition of land or Governmental responsibility was neither intended nor desired by the East India Company traders.[36] However, the Government did inevitably become involved, initially only in order to protect the trading posts of the East India Company, but eventually assuming increasing responsibility, and acquiring

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[32]Latourette. *History of Christianity.* p. 67.

[33]*The Call from India.* p. 18; Hunter. 'Our Missionaries'. p. 19.

[34]Hunter. 'Our Missionaries'. p. 20; Latourette. *History of Christianity.* p. 69. Nevertheless, even within the Company, there was debate about the merits of christianising and many employees were not unsympathetic to the aims of the missions. Charles Grant, an East India Company employee and later Director and Chairman, underwent an evangelical conversion in Bengal in 1792 and his writings helped to generate interest among missionary societies towards the 'plight' of India. In addition, the chaplains attached to the East India Company to provide religious ministration to the European employees, in many cases became infused with missionary fervour. Laird, *Bishop Heber.* pp. 3-4. All this added piquancy to the debates over the rights of jurisdiction contained in the Company's charter.

[35]Williams. 'Healing and Evangelism'. p. 69.

[36]Williams. 'Healing and Evangelism'. p. 67; Chamberlain, M E. *'Britain and India: The Interaction of Two Peoples.* (Newton Abbot, 1974). pp. 36-37.

substantial territory. In terms of missionary activity, the hostility of the traders had not been prohibitive, and with the gradual extension of British authority in India, Christianity found the path to evangelicalism eased. Irrevocably, as the British Empire incorporated vast tracts of Indian territory with annexations made in support of existing territorial gains, so the culture of western society began to pervade those possessions.[37] One of the fundamental pillars of western civilisation was Christianity, and although neither the governing body of the East India Company nor the British Government specifically promoted the spread of Christianity, the Evangelical Societies were able to gain readier access to the virgin mission fields of unenlightened heathen India as territorial annexation increased. The 1858 Act, which transferred responsibility and ownership of the Indian Territories from the East India Company to the British Crown, afforded legislative recognition to the *de facto* involvement of Her Majesty's Government in Indian affairs.[38] This is not to suggest that the missionary societies could not or would not have flourished without the political commitment of the Home Government. On the contrary, the American Mission personnel represented five-sixths of the number of British missionaries in India in the nineteenth century, and the American Government certainly had no commercial goals or political investment there.[39]

THE INDIAN MISSION FIELD

India, like China, was a rich field for missionary activity. Exploitation of its potential, both as an imperial colony and a source of repentant converts, began in earnest in the nineteenth century with real impetus coming after the mid-century transfer of power. The missionary societies began serious infiltration in the latter years of the century, and true political and imperial interests were not undertaken by

[37]Williams. 'Healing and Evangelism'. p. 68.
[38]An Act for the Better Government of India. (1858) 21 & 22 Victoria, c.106.
[39]Latourette. *History of the Expansion of Christianity.* p. 160.

the British until the assumption of control by the Crown. The population of India in 1855 was reckoned at 175 million and was made up of members of various religions, although the majority were Hindu.[40] Certainly, in the mind of the British public, the whole of India was made up of 'hindoos', a term which was virtually synonymous with 'Indian'. In reality, there were Muslims, Sikhs, Jains, Parsees, Buddhists, Animists and Jews, as well as a small population of Christians.[41] Although the missionary societies were all eager to set up operation in India, they were equally prepared to share the spoils of conversion, and each society was content to restrict their activities to a specific territory, thereby avoiding direct competition with fellow Christian missions. For example, the Bombay field was shared between the CMS, SPG, ZBMM, SSJE, and the CSMV.[42]

The work of the Christian missions was challenging since Hinduism was not only widespread, but heavily intertwined with the social culture. The tenets of Hindu religion hold that the only unforgivable sin is to forsake Hinduism, so that the newly converted Christian must inevitably face ostracism, rejection and sometimes outright persecution. In addition, the strict observation of caste is a religious duty for the Hindu, and the capitulation to Christianity thus cost the Hindu both his religious *and social* identity.[43] This cultural fusion made the work of the missions harder since, even if they gained a convert, the isolation and loss of caste suffered by the newly baptised acted as a possible deterrent to others, and sometimes induced the new convert to recant. Consequently, those most eager to embrace the

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[40]French. *The Gospel in India.* p. 13; Davis, K. *The Population of India and Pakistan.* (Princeton, 1951). p. 25. This figure is an estimate, the first census not being taken until 1871. The Hindu population was around 70%.

[41]French. *Gospel in India.* pp. 13 & 33; *The Call From India.* p. 5. 22% were Muslim, 6% were made up of Sikh, Jain, Parsee, and Jew, 2% were Christian. Buddhism existed only in the north-east corner of India.

[42]Church Missionary Society; Society for the Propagation of the Gospel in Foreign Parts; the Zenana Bible and Medical Mission; Society of St John the Evangelist; Community of St Mary the Virgin. *The Call from India.* pp. 70-71; 91-125. Other sectors were similarly apportioned.

[43]French. *Gospel in India.* p. 35. *The Call from India.* pp. 7 & 39.

Christian message were the outcastes or untouchables. Already ostracised by Hindu culture, they were forced into the most degrading and insalubrious work, forbidden to use public wells or send their children to public schools, and were so repugnant to the rest of Hindu society that to touch an outcaste was a sin redeemable only by extensive religious atonement.[44] Unsurprisingly, they responded enthusiastically to the philosophy of Christianity, which offered them a means to enter respectable society, to gain the right and means to education, to exchange a life of oppression and degradation for one of hope and opportunity, and all for the price of a simple baptism.[45] The fifty million outcastes represented, therefore, a significant proportion of the early catch for the Christian fishers of men.[46] In South India, the earlier missions concentrated their activities among the *sudra* castes, who represented the middle section of the caste system.[47] They had a measure of success, especially in the case of some villages who converted wholesale to Christianity. These mass conversions occurred mainly in the district known as Tinnevelly, where missionary activity had been in operation since the beginning of the century, initially under the auspices of an SPCK sponsored German mission, and then by the CMS. However, much of this remarkable success was attributed to the prevailing famine in South India and the fact that the missions were entrusted with relief operations, the correlation between distress relief and conversion being somewhat pronounced, and certainly in the longer term, the Tinnevelly missions

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[44]*The Call from India.* pp. 51-2.

[45]*Census of India*; (1921) Vol. I, Part I. p. 117; Countess of Jersey, 'The Hindu at Home'. *The Nineteenth Century.* Vol. 25, (May 1889). pp. 653-666. p. 664. Lady Jersey stated that all too frequently, the attitude of native converts to the sudden acquisition of universal brotherhood was to grasp what material possessions and social mores had been denied them through caste: 'Me same caste as Master now - me drink and smoke'.

[46]*The Call from India.* p. 51; French. *Gospel in India.* p. 47; Hunter. 'Our Missionaries'. p. 22; Countess of Jersey. 'The Hindu at Home'. p. 659. These converts were dubbed rice Muslims or Hindus, in cynical allusion to their understandably mercenary motives for adoption of the Christian faith. Lady Jersey reported that 'hundreds of converts were made during the famine years, who have since relapsed' and that the thousands of Hindus that attend the mission schools 'come for the sake of the secular education given, but no-one in his wildest moments expects [them] ever to become converts'.

[47]*The Call from India.* p. 37.

were unable to retain a hold on all their new members and many lapsed.[48] It was very much harder for the missionaries to achieve the conversion of the high-caste or higher status Hindus who had much more to lose in converting to Christianity, and who formed the backbone and religious authority of the caste system itself.[49] Lady Jersey wrote of the value of such converts stating that although 'one soul is as valuable as another', the acquisition of a Brahmin into the Christian fold would influence others to follow Christ. She also mentioned the potential damage that a predomination of low-caste converts had on the image of Christian faith, remarking that a low-caste, semi-educated Christian community would repel rather than attract other converts, especially of a higher status.[50] Conversions from Islam were also somewhat rare, despite the strenuous admonition to Indian missions to concentrate on that field. The Muslims accounted for 22% of the population of India, and although in national terms Hinduism was by far the most prevalent religion, in global terms the Muslim population of India represented one quarter of the entire world population of Islam. Commentators such as W E French believed that a significant capture among the Indian enclave of Muslims would create a springboard from which to pursue the conversion of Muslims worldwide, especially since the Indian fraternity were regarded as less fanatical than their counterparts elsewhere.[51]

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[48]*The Call from India.* p. 38; Countess of Jersey. 'The Hindu at Home'. p. 661. (Quoting Mr T Varahda Row); Flemming, L. 'A New Humanity: American Missionaries Ideals for Women in North India, 1870-1930.' Chaudhuri, N and Strobel, M (eds.) *Western Women and Imperialism.* (Bloomington, 1992). pp. 191-206. p. 205. Flemming provides evidence of mass conversions among the *jati* (untouchables) which began in the 1880s. These were not cases of wholesale villages converting, but rather clan groups and families. Flemming also points out that the missions were unprepared for mass conversion and were sometimes unable to accept it. Generally, conversions were much slower and more piecemeal.

[49]*The Call from India.* p. 7; Hunter. 'Our Missionaries'. p. 22; Flemming. 'A New Humanity'. p. 205. Hunter did not realistically expect a large number of converts from the orthodox and high caste Hindus and Muslims; Flemming implies that the Protestant missions primary goal was the high caste convert and that they were actually unwilling in some instances to accept the heavy conversion of lower castes.

[50]Countess of Jersey. 'The Hindu at Home'. pp. 660-1.

[51]French. *Gospel in India.* p. 49. The countries of the Middle East were seen as the most impregnable targets.

India thus represented a diverse challenge to the missionary, and the nineteenth century evangelists were not slow to take up the gauntlet. Indeed, India became a passion with many societies, as well as with the public in general.[52] However, the conquest of the spirit of India was not to prove as easy as the acquisition of her territory had been. The missionary quest was soon seen as one which would require vigour, tenacity and guile, and thus presented the ideal theatre in which to launch the medical missionary. Although by the middle of the century the dual role of medicine and evangelism had become an accepted and even valued part of the mission culture, there were still questions regarding the training of such advocates. The debate raged on both sides, and whilst it was generally accepted that the activities of the 'pill-box' missionary should be discreetly withdrawn, the degree to which theology should give way to medicine was hotly contested. Ordination of medical missionaries continued to be a bone of contention among some clergy, and the type and extent of clerical training given to medically qualified mission volunteers varied between the societies. However, there was equally strong deliberation from members of the medical profession, who did not wish their recently acquired respectability and authority to be cast into disrepute by the subordination of medical training to theological finesse. The medical fraternity regarded it as essential that the medical missionary be first and foremost a doctor, who had received full and valid instruction at a recognised institution. Negotiable compromise proved impossible and it was therefore left to the individual missionary societies to establish their own criteria in this matter.

By 1910, there was clearly a level of diversity in the degree of expertise required. The World Missionary Conference published a report in 1910, which looked

[52]Queen Victoria and Benjamin Disraeli both became enchanted with India, although they were in no sense promoting missionary activity.

specifically at the training and preparation of missionaries and *medical* missionaries by the societies. The Commission reported that most societies were having trouble recruiting sufficient medical personnel, although none were apparently willing to relinquish the duality of medical mission work and engage doctors who were loath to adopt any spiritual duties. Nor were they willing to accept candidates with less than perfect credentials. Indeed, they demanded that all their doctors be qualified to the same degree as any MD wishing to practice in Britain and as time went on, were concerned to attract the highest quality applicants.[53] Nevertheless, the societies did admit to assigning medical professionals to the mission field before they were fully trained in their *ministerial* duties. This disparity was due to the variable standards required by the different societies in terms of theological refinements. The Commission found that whilst some societies demanded two years at a theological college in addition to full medical training, others merely requested 'real missionary spirit'. Another society wanted experience in spiritual work, but did not regard actual theological knowledge as a necessity for the medical missionary.[54] The quality and depth of theological expertise amongst medical missionaries was irregular, and whilst the quack doctoring of the original missionary had been eliminated by the advent of trained medical personnel and a registered aversion to such practices, there was no such limitation on the peddling of quack evangelism. Although there was concern over the inadequate supply of doctors wishing to pursue a missionary career, the missionary societies were at first unable or unwilling to provide financial aid to prospective medical missionaries. There were occasional grants for postgraduate courses, with much emphasis being placed on the

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[53]World Missionary Conference. *Report of the Commission V: Preparation of Missionaries.* Conference Proceedings, (London, 1910). pp. 135 & 21. This finding does not tally with the statements made by Sophia Jex-Blake and Ellen Farrer, who both reported the engagement and use of half qualified medical missionaries in Zenana work. The discrepancy may be due to the concentration of the WMC on male medical missionaries, since there was no shortage of such professionals and male medical missionaries heavily outnumbered their female counterparts even in 1910. The female aspect is discussed more fully below, and in chapter 4.

[54]World Missionary Conference. *Report.* pp. 43-44.

study of tropical medicine which was deemed essential for life and practice in the East by 1910. Some missionary societies also offered help with professional fees.[55] However, by 1895 there was evidence of a shortfall in candidates for the many missions eager to acquire one of the prized medical missionaries. As with all precious commodities, the high demand matched with a limited supply created a favourable market environment for the trainees. The CMS was forced to start paying for training of potential candidates.[56] Their strategy evidently paid off, since four years later they were boasting one doctor in every ten missionary recruits. In contrast with the sometimes lackadaisical attitude to theological training for the missionary doctor, the World Missionary Conference report urged all societies to ensure that all their *ministerial* envoys had at least rudimentary *medical* skills. This was regarded as essential for their own survival if nothing else, since the very dearth of medical missionary recruits meant that many stations would be without a medical attendant. Basic medical knowledge would also enable them to offer inducements to the natives and healing would enhance the influence of the mission station.[57] Medical missionaries, whether fully theologically trained or bearing only missionary zeal, were required to undertake certain preparation when embarking on the mission field. Knowledge of the native language and culture was essential, and the WMC recommended that the candidate ideally begin such studies before leaving Britain.[58]

Despite the acceptance and relative success of the medical missionary role, the argument for divorcing ministerial duties from medical responsibility was gaining support as early as 1860. It was argued that the material needs of the medical missions were so much greater than those of their clerical counterparts that they

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[55]World Missionary Conference. *Report.* pp. 135 & 45.
[56]Williams. *Healing and Evangelism.* p. 284. This funding began in 1895.
[57]World Missionary Conference. *Report.* p. 113.
[58]World Missionary Conference. *Report.* pp. 136-7.

required separate funding, in order to prevent the medical stations from competing for the normal missionary donation.[59] The kudos gained by the medical missions and their very success led to many clerical missionaries returning home to gain MDs. Indeed, it has been suggested that there were others among the clerical community who wished to achieve medical qualification, but who were dissuaded from deserting the mission field lest the evangelical branches of the missionary societies became denuded of all clerics.[60] Notwithstanding this potential fracture of the mission fraternity, the medical missionaries were not ready to surrender their evangelical capacity and regarded themselves as having a mutual function, to tend both body and spirit.[61] The success of this application, and the spiritual concern shown by the medical missionaries enabled the World Missionary Conference of 1910 to conclude that whilst educational institutions in India needed a purely ministerial head to oversee the missionary activity, even though he might be lacking the professional capability of the teaching staff, there was no such need in the case of the medical missions.[62] Doctors, and doctors alone, had thus succeeded in infiltrating and appropriating a role once seen as solely the province of the trained cleric.

The acceptance of medical personnel in the missionary field on a level footing with their evangelical brethren, offered a new and relatively untrammelled career path to female doctors who were anxious to find work, but unable or unwilling to battle on in the hostile environment of misogynistic British hospitals and competitive general practice. Among the missionary societies they found ready, even eager, acceptance and were regarded as a uniquely valuable commodity by the Zenana missions.

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[59]Walls. *The Heavy Artillery.* p. 295.
[60]Walls. *The Heavy Artillery.* p. 295.
[61]Walls. *The Heavy Artillery.* p. 296.
[62]Walls. *The Heavy Artillery.* p.296.

THE ZENANA MISSIONARY SOCIETIES

The evolution of the Zenana missions owed much to women. Female evangelical missionaries,[63] wives of male missionaries or simply interested Europeans visited their native sisters and were distressed by what they found.[64] Rose Greenfield, for example, went to India in 1875 under the patronage of the Society for Female Education in the East. On visiting the Zenanas in the hope of providing them with educational nourishment, she found a welter of illness and suffering which she treated with simple medicinal remedies and lessons in hygiene and cleanliness. These simple remedies prompted other purdah women to seek out her help and advice, and gradually she gained a veritable practice, eventually establishing a small dispensary in 1881.[65] Miss Greenfield continued with her medical work, albeit unqualified, until 1924. Mrs Scharlieb, wife of a Madras barrister, also heard of the suffering of female India, and determined to make some effort to address the problems of the Zenana. Initially, she embarked on training in midwifery since the worst iniquities of purdah seemed to occur at parturition, but she quickly came to realise that the problems of Zenana childbirth required greater expertise than could be met by birth attendants.[66] Not only did the culture of the Zenana forbid the entrance of men, it also included a fixed regime for the expectant mother. Locked away in a private room and regarded as unclean and untouchable during the period of delivery and for forty days following the birth, the mother was isolated from

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[63]Women were not regarded as unsuitable for purely theological work. The arguments regarding the unsuitability of the Indian climate that were used against female medical missionaries were not brought to bear on the spiritual missionaries - indeed, when male doctors in India denounced the female *medical* missionary, they urged any ladies who felt compelled to reach out to their native sisters to come as pure missionaries instead. The *American* missions boasted a overwhelming proportion of female theologians - representing two-thirds of their entire force by 1910. Burton, A. 'Contesting the Zenana: The Mission to Make "Lady Doctors for India", 1874-1885'. *Journal of British Studies.* Vol. 35, (July 1996). pp. 368-397. p. 381; Flemming. 'A New Humanity'. p. 191.
[64]Hoggan, F. 'Medical Work for Women in India'. Part I. *Englishwoman's Review.* (April 15, 1885). pp. 145-158. p. 147; Blackwell, E. 'Medical Women for India'. *Journal of the National Indian Association.* (January 1883). pp. 10-33. p. 11.
[65]Balfour, M and Young, R. *The Work of Medical Women in India.* (Oxford, 1929). p. 18.
[66]Balfour and Young. *Medical Women in India.* p. 29.

normal human intercourse as well as from vital medical aid.[67] Any complication of pregnancy or childbirth could lead to internal deformity or death unless it spontaneously corrected itself, and the dangers were intensified by the extremely young age of many of the birth mothers, who had often only just reached menarche. Pregnancy among such juveniles could result in chronic ill health or irreversible internal damage.[68] Native midwives in attendance were oblivious to the virtues of hygiene and untrained in the practice of delivery, relying instead on traditional methods, magic and brute force. Frances Hoggan was horrified by the activities of the dhais who were 'ignorant, superstitious, incompetent in the extreme', and given to the use of 'charms, exorcisms, pujas or religious ceremonies, rough mechanical tractions and other barbarous modes of treatment' which formed 'a large part of their resources'.[69] However, the difficulty of penetrating the veil of the Zenana was further exacerbated by the wholehearted compliance of the women with the system. It was not uncommon for the woman herself to bar the doctor from the room, preferring to die in agony than risk shame and ostracism.[70] The veil of the Zenana hid more than mere minds trammelled by idolatry and heathenism, and the first western women to look on the naked face of purdah immediately abandoned their educational agenda in favour of a programme of basic physic. The commitment of these early missionaries was exhibited by their desire to glean as much medical knowledge as possible, in order to better aid the Zenana sisters. They used common sense and basic hygiene in the first instance, read medical handbooks in their spare

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[67]Because the birthing mother was regarded as 'unclean', she was treated somewhat like an outcaste and often shut away in one of the least salubrious and pleasant rooms, given the worst blankets and sheets and the most basic crockery. This was because everything that came into contact with her would have to be burnt, disposed of or sterilised after the birthing and seclusion period was complete. The rooms chosen were those least used by the family, and were consequently usually ill-ventilated and dark. The mother was confined to this area, and partly as a result of the lack of fresh air, sunshine and exercise, *and the lack of pre-natal examination and care,* frequently suffered some ill-health following the birth. Balfour and Young. *Medical Women in India.* pp. 2-3.

[68]Moberly-Bell, E. *Storming the Citadel.* (London, 1953). p. 112. The age of menarche was about 11 or 12.

[69]Hoggan. 'Medical Work'. I. p. 152.

[70]Balfour and Young. *Medical Women in India.* p. 4.

time and when home in England on leave, took to traipsing around hospital wards, attending medical lectures and consulting friendly physicians in a quest to broaden their understanding.[71] Yet despite the lurid tales and horror stories relating to the women of the Zenana, and the European observations that Indian women rarely attended clinics and hospitals in India, it was not until the 1870s that the Zenana passion really began.[72]

The Zenana Bible and Medical Mission had originally been conceived to carry education and Christian enlightenment into the closeted world of purdah, but the early discoveries of physical hardship led to a re-evaluation of the agenda.[73] The perceived pernicious influence of the dhai tended to concentrate the focus on the problems of childbirth, but it was not only in childbed that the Hindu women were denied access to medical aid. Caged by the Zenana, they were forbidden to seek medical attention, or indeed any attention, from males other than those belonging to their family. If the case was desperate and the male family members particularly liberal, the husband or brother would sometimes detail the description of symptoms to a doctor. Occasionally a male doctor was permitted to feel the woman's pulse, though only with the proviso that she remain secluded behind a screen.[74] Unsurprisingly, such medical attention rarely resulted in correct diagnosis and successful treatment. The Zenana missions themselves focused entirely on women and they, therefore, required female envoys to carry out the dual role of medical attendant and spiritual guide. However, before the missionary societies could successfully breach the doors of the Zenana, they had first to see the doors to medical education and qualification opened to their own native women. Hence, the

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[71]Moberly-Bell. *Storming the Citadel.* p. 113.
[72]Harrison. M. *Public Health in British India: Anglo-Indian Preventative Medicine 1859-1914.* (Cambridge, 1994). p. 91.
[73]The ZBMM was founded in 1852. Moberly-Bell. *Storming the Citadel.* p. 112.
[74]Balfour and Young. *Medical Women in India.* p. 3.

first medical women to set up practice in India were not English. As detailed above, the struggle for medical education among western women was first won in America, where specialist schools offered training and certification to the fairer sex. Thus, in the 1870s America led the charge into the Zenana,[75] with Britain not unleashing a female crusader until Fanny Butler a decade later.[76]

The first qualified female medical practitioner was Dr Clara Swain of the American Women's Foreign Missionary Society of the Methodist Episcopal Church. She arrived in Barielly in the United Provinces in 1869. Although Fanny Butler was the first fully qualified British medical woman to work in India, others had worked in the field prior to accreditation - not least Elizabeth Beilby, credited with being the second British female medical missionary. Elizabeth Beilby had arrived in Lucknow in 1876 with some formal medical training, and had opened a small hospital and a dispensary and proceeded to practice basic medicine. In 1881, however, she left India to take advantage of the full medical training then available in England, and tradition has it that she carried with her a message from the Maharani of Punna to Queen Victoria. This letter supposedly detailed the suffering of the women of India and begged the Empress of India for help.[77] Beilby returned in 1885 with an MD (Berne) and the Licentiate of the King and Queen's College of Ireland, and established a new practice and hospital at Lahore. Nor was she the only pioneer to seek accreditation. Mrs Scharlieb was not medically trained, but her initiation into the reality behind the veil stimulated her to seek education. Having decided that midwifery would not serve, she began to battle her way into the

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[75]Hoggan. 'Medical Work'. I. p. 147. These American medical missionaries *were* fully trained, unlike some of their counterparts from other countries who sent out half-trained envoys.
[76]Harrison. *Public Health in British India.* p. 91. Miss Fanny Butler was the first female medical missionary to reach India. She was despatched by the Church of England Zenana Missionary Society in 1880.
[77]Heckford, S. 'Women Doctors in India'. *Journal of the National Indian Association.* (December 1881). pp. 718-722. p. 718.

Madras Medical College, and was eventually admitted, with three others, in 1875. Their clinical training was undertaken at the Women's Hospital under the supervision of Surgeon Branfoot, who was as determined not to teach the women as they were to learn. His best efforts notwithstanding, all the women passed and Mrs Scharlieb then returned to England to enrol at the London School of Medicine for Women, from where she graduated in 1882.[78]

These examples are illustrative not only of the worthy goals of the early European women, but also of the fascination of the Zenana. Not only did these women determine to take light and healing behind the veil, but in order to do so, they also overcame the hostility and resistance of countless members of the male dominated medical profession both in India and England. However, their zeal and determination, strong enough to break into the bastions of male dominance and privilege, were insufficient to push past the veil. Armed with their qualifications and full of high-minded ideals, they found that the images of Hindu and Muslim women clamouring for the clemency of western medicine were false, and that the Zenana clientele were much less eager to embrace their craft than they had imagined.

Nor, indeed, was this the only obstacle remaining. Female entrance into medical schools and admittance to the licentiates of Europe were now accepted, however grudgingly, but the debate about *female* medical missionaries was still in its infancy, and some of the fiercest critics of this dual profession were qualified women doctors. Famous figures from the struggle for female education in medicine openly expressed doubts about the prospect of lady medical missionaries. Edith Pechey, Elizabeth Garrett-Anderson, Frances Hoggan, Sophia Jex-Blake, even

[78]Balfour and Young. *Medical Women in India.* pp. 19 & 29.

Elizabeth Beilby, all entered the debate on the side of caution. Perhaps the hostility of these prominent campaigners stemmed from their fight, in the same way that prominent male doctors had been wary of jeopardising the new status of the profession in 1858. The pioneers feared seeing the achievement of medical education for women discredited by the action of those who sought the licentiate purely as a device to aid their spiritual duties. Indeed, Fanny Butler openly declared this to be just her purpose in enrolling at the London School of Medicine for Women in 1874. She was unsure about the propriety regarding female doctors, feeling perhaps that it was unwomanly,[79] but determined to overcome such scruples because medicine '*was a means of approach to many who were inclined to be hostile to missionaries teaching, but could not resist it when it was expressed in acts of mercy.*'[80] Although this declaration was in full accordance with the aspirations of the medical missions themselves, it excited the gall of the early pioneers in female medical education. They had fought hard and long, tooth and nail, to push through the doors of the medical schools in order to pursue the 'grand profession' for and of itself. To hear it described as a means to an end and a *distasteful* means at that, could not but cause some indignation. Edith Pechey, speaking at an inaugural address to the London School of Medicine for Women in 1878, urged those using medicine as a tool in the service of another profession, rather to pursue *both* professions faithfully.[81] Her expressed concerns concentrated on the need for full and proper medical education, although here she was perhaps missing her intended audience, since the purpose of the LSMW was to provide just such an education, and regulations had been passed to ensure that all those who enrolled intended nothing less that the completion of the full four years and entry

[79]Burton. 'Contesting the Zenana'. p. 378.
[80]Moberly-Bell. *Storming the Citadel.* p. 113.
[81]Jex-Blake, S. 'Medical Women'. *The Nineteenth Century.* Vol. 22, (November 1887). pp. 692-707. pp. 706-7.

onto the Medical Register.[82] Nevertheless, she was clearly troubled by the prospect of half-hearted doctoring being wedded to evangelical zeal and resulting in the devaluation of women doctors *per se*. This was, of course, a reiteration of the arguments put forward by the medical establishment itself in the early years of medical mission work, when it too feared that mediocre medicine used as an evangelical aid would undermine the recently acquired and precious professional reputation of the medical man. Nevertheless, so protective did Pechey feel over the reputation of lady doctoring that she implored all medical missionaries to put the science of medicine before the practice of evangelism, lest they disgrace the former.[83]

Elizabeth Beilby, hailed then and since as one of the earliest of these dual pioneers, actually renounced her affiliation to the Zenana Missionary Society when she returned to train as a doctor in 1881. She was disenchanted with the attitude of the Society which would send out half trained doctors, or women trained as nurses, to practice as medical missionaries.[84] This was undoubtedly because the eager and desperate Zenana missions were unable to acquire enough of the rare and precious women graduates to meet their requirements and, therefore, resorted to those with at least a modicum of medical competence. Nevertheless, this practice had disturbed Miss Beilby who returned to England echoing Pechey's criticisms, but backing them with fact. Beilby continued to stress the need for medical women in India, but recommended that such women train properly and go to India under their own auspices and not in the service of a missionary society.[85] Beilby's declarations

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[82]Jex-Blake. 'Medical Women'. p. 706. There had earlier been a problem of students enrolling in order to gain a smattering of knowledge to aid them in their mission work. Although the LSMW succeeded in eradicating this practice, other institutions actually provided *two year* courses for the purposes of these potential medical missionaries.
[83]Burton. 'Contesting the Zenana'. p. 380.
[84]Burton. 'Contesting the Zenana'. pp. 382-383.
[85]Burton. 'Contesting the Zenana'. pp. 383-4.

brought Elizabeth Garrett-Anderson into the debate.[86] Garrett-Anderson, a lecturer at the LSMW, wrote to *The Times* in 1881 warning of the dangers associated with the dualism of medical missions. Careful not to reject it out of hand, she nevertheless pointed out that the two professions were each *separately* sufficient to occupy and challenge their practitioners, and that to combine the two might be to the detriment of one or both.[87] She referred to a prospect of 'indifferent doctoring' and questioned whether poor medical treatment proffered by ill-trained missionaries was not more likely to alienate the Hindus than convince them of the virtues of Christianity.[88] Isabel Thorne, honorary secretary of the LSMW, also writing in *The Times* stressed that the numbers of graduates from the LSMW would soon reach sufficient proportions to supply India with adequate numbers of properly qualified medical women.[89] The views of such prominent figures at the London School of Medicine for Women inevitably percolated down to the students, albeit unofficially, and the prize winning essay in 1886 discussed the subject of hybrid medico-evangelism, arguing that if female doctors in the service of missionary societies were to act as evangelical agents, they should still first and foremost be good doctors and should not use the acquisition of medical skills to 'gain surreptitious entrance for Christian doctrine under the pretence of doing something else'.[90] Frances Hoggan too was sceptical about the prospects of a successful marriage between medicine and evangelism, repeating the view that medical missionaries tended to put proselytising first, and also suggesting that the very idea of a spiritual

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[86]Burton suggests that Garrett-Anderson and others were unwilling to impugn medical missionary work until Beilby, a former medical missionary, had condemned it with the benefit of experience. Burton. 'Contesting the Zenana'. p. 384.

[87]Garrett-Anderson, E. 'Medical Women for India'. *The Times.* (October 31, 1881).

[88]Garrett-Anderson, E. 'Medical Women for India'. *The Times.* (October 31, 1881).

[89]Thorne, I. 'Medical Women for India'. *The Times.* (October 29, 1881).

[90]Burton. 'Contesting the Zenana'. pp. 379 & 388. The student was Edith A Huntley, who later became a medical missionary with the Church of England Zenana Missionary Society! This career move may reflect the lack of opportunities for female doctors outside the missionary field, although her essay did not discount the prospect of reputable practice by medical missions or categorically denounce them.

agenda caused the native men to bar the medical missionaries from the Zenana. Male family members believed that their women would all too easily fall under the sway of the educated westerners who showed such interest in their lives and such concern for their bodily comfort, so they banned them from visiting rather than risk such religious disunity. This meant that the *purdah nishin* were denied both physical succour and spiritual enlightenment, and Hoggan therefore believed the two roles should be divorced in order that the women could at least benefit from medical attendance. Hoggan shared with Beilby a conviction that medical work in India should be on a sectarian basis. She predicted that the separation would provide a two-fold advantage, firstly ensuring the best quality medical care unfettered by religious concerns and agendas, and secondly, relieving the suspicion and resentment of the natives, many of whom were quite understandably hostile towards aggressive evangelism masquerading as benevolent medical charity.[91]

These declarations were, though, no more and no less trenchantly observed or prophetic than the statements of the male medical establishment twenty years earlier. That they were made again merely indicates that the female medical hierarchy was as defensive of its reputation as the male. Even so, Sophia Jex-Blake continued to denounce missionary societies and other agencies who, in 1887, were still sending untrained or semi-trained women out as mission doctors. Although understanding that the shortage of trained and willing women volunteers was at the root of the problem, Jex-Blake was vigilant in her quest to expose such practices, vilifying the Church of England Zenana Missionary Society for its continued offences. She was equally quick to praise the Zenana Bible and Medical Mission which had 'distinguished itself by the wiser resolution to employ ... none but fully qualified women', although she also recognised that this very rectitude might limit

[91]Hoggan. 'Medical Work'. I. p. 148.

their operations.[92] These legitimate and understandable concerns and observations were not the only criticisms made of female medical missionaries; nor were the early female pioneers, anxious to defend their hard won professional status, the only ones to question the validity of the female medical missionaries. Unsurprisingly, male physicians in India were not best pleased by the prospect of trained medical women encroaching on their professional territory, although it was not unexpected. Opponents of female medical education had declared that the profession in England was prohibitively congested and that the newly qualified lady doctors would be unable to find lucrative or even rudimentary employment there. Advocates side-stepped this argument by pointing to the uncharted territory of the Zenana as a ready-made client base. *The Times* dove-tailed the two arguments in 1881, in an editorial which derided the chances of women attaining lucrative employment in the English medical market, but urged them to explore the possibility of work in India. 'An honourable and lucrative career [was] open to women whose tastes lie toward medical education in India' and if they followed this course 'instead of prejudice, hearty wishes of goodwill would accompany the migration of lady doctors to India.'[93]

However acceptable or seemingly legitimate the claims of the Zenana were, they were not viewed favourably by male doctors in India or the hard-line stalwart doctors in England. Dr Charles West, FRCS, garnered the opinions of some of the practitioners in India and reported their rejection of the premise of the Zenana well-spring.[94] Surgeon-Major Temple Wright gave it as his opinion that female doctors would be unable to fashion a practice in India owing to the poverty of the

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[92]Jex-Blake. 'Medical Women'. p. 703. Jex-Blake stated that of the 50 women enrolled on the British Register by 1887, only ten were available for Indian service (although this is still a fair proportion!)

[93]*The Times*. (October 27, 1881).

[94]Burton. 'Contesting the Zenana'. p. 380.

population, and he recommended that any such candidates coming to India should concentrate their activities on the European ladies in the hill stations or attach themselves to missions, since lucrative private practice would be entirely beyond their capability.[95] Dr Robert Harvey claimed that while the need for medical women did exist, the time was not yet ripe for the introduction of such a service to the Indian native. The demand in 1883 was too small to justify a flood of lady doctors from England, especially as the caste and cultural prejudices of the natives would lead them to view such ladies as less than respectable. He conceded that there was scope for a few female practitioners, but only in a subordinate role to a male doctor such as himself, and any prospective candidate wishing to pursue that avenue would have to be especially well-qualified and above the average of other doctors of either sex. The number of female doctors exhibiting this calibre was, according to Harvey, extremely limited.[96] In addition to these counterclaims about the legitimacy of purdah practice, there was also a widespread reiteration of the notion that medical work was fundamentally unwomanly,[97] and a heated discourse on the physical dangers attendant on women living, let alone *working,* in India. Dr Charles West argued, as did many others, that the climate of India was insupportable for women, the sun too hot and the conditions too harsh; and although many women accompanied their husbands to India, these leisured ladies were protected from the pernicious effects of the burning heat as far as possible, by being banished to the hills during the dry season. That option would not be open to the

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[95]Letter from Surgeon-Major Temple Wright to the National Indian Association. Blackwell. 'Medical Women for India'. pp. 16-18.

[96]Letter from Dr Robert Harvey, Professor of Midwifery at the Medical College of Bengal to the National Indian Association. Blackwell. 'Medical Women for India'. pp. 19-20.

[97]Burton. 'Contesting the Zenana'. p. 378; Manton, J. *Elizabeth Garrett-Anderson.* (New York, 1965). p. 47. Fanny Butler had had to overcome her own genuine revulsion at the idea of taking up so unfeminine a profession as medicine, and reconciled herself to it purely as a pragmatic aid to her evangelical ambitions. A columnist wrote of Elizabeth Blackwell that it was 'impossible that a woman whose hands reek of gore can be possessed of the same nature or feelings as the generality of women'. So although the entry of women into the grand profession was tolerated, it was still regarded as an unsuitable and even improper career for the gentler sex.

women doctors who would be forced to remain on the plains all year in order to carry out their work, and this argument was, therefore, used frequently in the debate about women's place in the colonial medical field.[98] Nevertheless, women doctors were despatched, both as medical missionaries and in a secular capacity, to live and work in the enervating heat of the Indian plains.[99]

India and the Zenana were regarded as both an opportunity and an obligation. It was the duty of the Christian West to proffer the fruits of civilisation to the suffering multitude in the pagan East. That the performance of this duty resulted in the prospect of employment for several of the new female doctors, whose chosen profession would have offered little hope of adequate remuneration at home given the climate of competition, overcrowding and prejudice, was a fortuitous coincidence. Ironically, then, the very practice that chained *India's* women and was officially condemned by the Government of India,[100] offered the springboard of opportunity from which *England's* women could gain professional emancipation. A fortunate coincidence indeed, but there were those who perceived a decided self-interest or compassionate blindness in the tender solicitude toward the prisoners of purdah, which was of itself damaging to the progress of civilisation in India. It was argued that by introducing medicine *into* the Zenana, in the hands of the acceptable female emissaries, the medical missionaries were removing an incentive for the women to come out of the Zenana or for the men to permit such liberalisation.[101] Flora Annie Steel believed that the activities of the Zenana medical missions were simply retarding the progress of liberation from purdah. She believed that 'pain was

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[98]Burton. 'Contesting the Zenana'. p. 388; Barr, P. *The Memsahibs - the Women of Victorian India.* (London, 1976). *passim.*

[99]For example, Edith Pechey-Phipson was employed by a fund created under the auspices of private finance and local government. The Dufferin fund, though, was the main non-denominational, secular organisation and is discussed more fully below.

[100]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.* Vol. 68, (1994). pp. 29-66. p. 40.

[101]Balfour and Young. *Medical Women in India.* p. 35.

nature's strongest fulcrum' and that if it were not for the efforts of the Zenana missions 'to make seclusion more bearable, India would now be half free of the curse of purdah'.[102] In contrast, Lady Dufferin was certain that India was far from ready to open the cage door, an opinion shared by Frances Hoggan, and she was earnest in her endeavour to co-operate with the purdah system in the interests of supplying medical attention to the Zenana. However, unlike Steel and Hoggan, Lady Dufferin did not regard the Zenana as uniformly harmful, and believed it conferred some positive benefits and advantages on its inhabitants, namely an element of distinction and protection. She was quick to point out, however, that seclusion was not a fitting practice for the superior cultures of the West: 'purdah would be intolerable to us, but the women born to it accept it as an obligation. The lark beats its wings against the bars, while the canary is apparently happy in its cage'.[103] Nevertheless, there was undoubtedly some truth in the statement that the very organisations that set out to educate the natives and eradicate a pernicious system of oppression were the means by which that system was perpetuated and allowed to flourish, although the degree to which they were responsible is highly debatable. The argument was nevertheless a potent one, particularly when allied to the assertion that there was no need and no call for the Zenana missions at all.

Objective evidence is scant as regards the need for the missionary invasion of the Zenana. Arguments were postulated both for and against the practice, with vested interests on both sides. For example, as stated above, male doctors in India insisted that the supposed need for female medical missionaries was a fabrication, and any

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[102]Paxton, N. 'Complicity and Resistance in the Writings of Flora Annie Steel and Annie Besant'. Chaudhuri and Strobel. *Western Women and Imperialism.* pp. 158-176. p. 164. Flora Steel was the wife of a British Civil Servant. She came out to India in 1868 and took up work as an inspector of schools.

[103]Marchioness of Dufferin and Ava, 'The Women of India'. *The Nineteenth Century.* Vol. 29, (March 1891). pp. 359-366. pp. 360-2; Hoggan. 'Medical Work'. I. p. 157. Francis Hoggan shared Lady Dufferin's view of the longevity of the Zenana, stating in 1885 that it would be useless to wait for the prejudices of religion to be removed before conferring medical aid.

women who wished to help their sisters should do so either as nurses or purely theological missionaries. The Indian Medical Gazette, mouthpiece of the official medical establishment in India, declared that 'women doctors don't take in India, but valuable service can be rendered to native ladies by good nurses acting in subordination to doctors.'[104] Proponents of female doctors, on the other hand, were adamant that the call from India was real and urgent, and they too brought forward witnesses who testified to the need for women doctors in the Zenana. Sophia Jex-Blake quoted Inspector-General Balfour who had stated to the Madras Government in 1872 that 'of the hundred millions of women in India, at least two-thirds are, by their social customs, debarred alike from receiving the visits of a medical man at their own houses, and from attending at the public hospitals and dispensaries ... to send among those classes, women educated in the medical art seems to be the only means of providing them with scientific medical aid'.[105] Not ten years later, in 1880, Sir Salar Jung was extolling the potential benefits which would result 'if English medical women, educated completely in England, could settle in the chief towns of India'. He was convinced of the demand and reckoned that, at a conservative estimate, 1, 025 female doctors would be required in the first instance.[106] Sarah Heckford echoed this view in her article for the *Journal of the National Indian Association* in 1881, and indeed claimed that there was 'general agreement' on the need for English medical ladies to attend the Indian Zenanas. Her pronouncements were the more valid since she had lived in India for two years and worked as a physician and surgeon, albeit without a diploma. During this time, she had found 'all classes of native women anxious to avail themselves of [her] services'.[107] The Honourable Syed Ameer Ali added his support to the cause in

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[104]Lal. 'The Politics of Gender'. p. 51. Quoting the Indian Medical Gazette editorial of January 1884.
[105]Jex-Blake. 'Medical Women'. p. 701.
[106]Jex-Blake. 'Medical Women'. p. 701.
[107]Heckford. 'Women Doctors in India'. pp. 719-20.

1883, stating categorically that 'there is a want which it is most necessary to supply, a want felt by all classes of society in India' for lady doctors.[108] Indian women too, came forward to emphasise their needs. Pundita Rama gave evidence to an Education Commission in 1882 and declared that 'the women of India .... would rather die than speak of their ailments to a man. The want of lady doctors is the cause of hundreds of thousands of women dying premature deaths'.[109] Not only did the need for women doctors in India receive endorsement from witnesses every bit as erudite and informed as those produced by the opposition, but the cause was further vindicated by action. In 1883, a meeting in Bombay headed by Sir Jansetjee Jejeebhoy announced that £4000 had been raised to *bring women doctors from England.* One of the women brought to India under the auspices of this fund was Edith Pechey, who was appointed as superintendent of the hospital also built by the fund.[110] Projects such as this seem to point to the veracity of the missionary society claims - if women doctors were not needed, surely women's hospitals would not be built and staffed by English medical graduates.[111]

Nevertheless, it is difficult to dispute the evidence, both contemporary and historical, that the visions of purdah were exaggerated and distorted. Moslem and Hindu women in many cases *did* attend hospitals and *did* consult male doctors. Maneesha Lal quotes government statistics which indicate that women of all religious affiliations sought medical treatment in the predominantly European and male-staffed government hospitals and dispensaries, representing between 15 and 20% of the total attendance.[112] Equally, Frances Hoggan writing *in favour* of the advent of women doctors for the Zenana, quoted figures that testified to female

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[108]Blackwell. 'Medical Women for India'. p. 26.
[109]Hoggan. 'Medical Work'. I. p. 150.
[110]Jex-Blake. 'Medical Women'. p. 701.
[111]A point of view supported by *The Times* newspaper in 1881, which stated that the demand for medical women in India was creating the supply. Heckford. 'Women Doctors in India'. p. 719.
[112]Lal. 'The Politics of Gender'. p. 39.

attendance at the Government facilities. However, the proportion of natives using these institutions was in itself very low, representing only 2.2 percent of the total native population. Less than a quarter of these were women.[113] Figures also show that, of the females attending Calcutta hospitals in 1885, the highest percentage were Hindu women at 46% of the total.[114] The statistical evidence would, therefore, seem to suggest that the need to reach into the Zenana was not quite as pressing as had been imagined. However, statistics do not always represent the true picture, and many of the female patients registered as attending did so only by proxy - a male family member seeking diagnosis and treatment for them. In addition, prostitutes were also brought to the hospitals for compulsory inspection under the Contagious Diseases Act of India, and were registered as voluntary female patients.[115] The profusion of prostitutes at the Government facilities were also a deterrent to the better class and higher caste patients, who did not wish to be treated alongside those of inferior ritual status.[116] These cases would distort the figures, making it appear that purdah was less inhibiting than it was, and that it did not preclude access to medical attention. Elizabeth Blackwell quoted statistics that showed less than one third of those attending hospitals and dispensaries were female, and that a significant number of *that* meagre proportion were actually treated outside the hospital itself and by midwives rather than male physicians.[117]

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[113]Hoggan. 'Medical Work'. I. p. 146.

[114]These figures are taken from the *Report on the Calcutta Medical Institutions,* December 1886 and Cowie, A J, *Report on what has been done in Bengal for the medical training and treatment of women.* (August 1886), and are reproduced in Lal. 'The Politics of Gender'. p. 40.

[115]Balfour and Young. *Medical Women in India.* p. 34; Harrison. *Public Health in British India.* pp. 72-6. This Act first came into operation in 1868, and survived in India despite repeals and re-invention until the twentieth century. The British Contagious Diseases Act was less stringent and was repealed in 1886.

[116]Arnold, D. 'Public Health and Public Power: Medicine and Hegemony in Colonial India'. Engels, D and Marks, S. (eds.) *Contesting Colonial Hegemony: State and Society in Africa and India.* (London, 1994). pp. 131-151. p. 144. The Government dispensaries and clinics thus acquired the aura of a poor house, since only the lower castes, beggars, prostitutes and the very poor would frequent them. This was a similar problem to that outlined by Lady Jersey above, regarding the desirability of recruiting high caste converts to Christianity lest the religion become tainted with the stigma of poverty and poor caste.

[117]Blackwell. 'Medical Women for India'. p. 14.

In contrast, Balfour and Young did not regard purdah as necessarily prohibitive. Their study identified distinct sets and classes of women, who had different attitudes to the procurement of medical relief.[118] These ranged from the *purdah nishin* who would not seek male attention whatever the cost to their health; to the 'respectable women' who were permitted to seek medical treatment, even from men, *except* in cases of childbirth or for specific diseases of women; and lastly to the low class women who consulted who and where they chose. Evidence in support of these criteria came from Dr Francis of the Calcutta Medical College, who had found that whilst the Bengalees who entered into service with the British Government were perfectly agreeable to having male doctors attend their women; for the Moslems and high caste Hindus seclusion and *ex*clusion remained rigid.[119] The *purdah nishin* were usually of the higher caste and ruling class of Indian society, and this group was popularly perceived to predominate in India. English visions of Indian womenhood defined only two roles for native females, the imprisonment of the Zenana or the prurient immorality of the *nautches*.[120] In fact, female seclusion varied enormously in extent and practice throughout the country depending on a variety of factors. Caste, religion, race, place of residence, and occupation all made a difference to social conduct and the extent of veiling and seclusion required. The diversity of practice forced Harriot Dufferin to conclude that 'no statement can be made from personal observation of one part of India which is not open to flat contradiction in another'.[121] However, this knowledge was not appreciated by many of the reformers, who tended to cluster in the cities and towns of India where they were probably exposed to a greater concentration of *purdah nishin* than normal, which inevitably distorted their view. Equally, the upper and middle class

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[118]Balfour and Young. *Medical Women in India.* p. 34.
[119]Balfour and Young. *Medical Women in India.* p. 34; Hoggan. 'Medical Work'. I. p. 151.
[120]Suleri, S. *The Rhetoric of English India.* (Chicago, 1992). p. 92. 'Nautch girls' were prostitutes.
[121]Marchioness of Dufferin and Ava, 'The Women of India'. *The Nineteenth Century.* Vol. 29, (March 1891). pp. 359-366. p. 359.

European women sought acquaintance with their Indian social counterparts rather than with the lower classes so, again, their experience would be misleading. Whatever the reason,[122] reforming rhetoric portrayed all India as subject to the tyrannical influence of the veil, and missionary societies and secular organisations alike set out to invade and educate.[123] Maneesha Lal points out that other influences could have prevented women seeking medical attention, not least the cost. Medical treatment was not free and for a poor family the cost, as in England, could be prohibitive. In the majority of families in India, both urban and rural, women's health was not regarded as sufficiently important to warrant any but the most meagre expenditure.[124] In addition, women residing in the countryside would have to take time away from work and family to travel to the urban based medical facilities, contributing a further loss of income, whilst popular folk medicine could be obtained locally and free of charge.[125]

The Zenana thus became symbolic of the plight of the Indian woman, exciting reforming zeal among the British public. Along with the sense of Christian duty and patronising racial superiority, the veil of the Zenana was also seen as the manifestation of both eastern barbarism and romance. India was a jewel in the crown of empire and a magnet for Christian philanthropy, and the Zenana became the property of British female charitable aspirations - educational, medical and

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[122]British colonial perceptions of the reality of purdah were, of course, more apposite in the formulation of policy than what might have been the actual historical truth. Lady Dufferin accepted that evidence of the willingness of native women to receive male doctors was contradictory and difficult to assess, but nevertheless, she was firmly of the opinion that purdah prevented adequate medical attention from reaching 'a very large number of women' and that no man would ever attend at a confinement or for female disease. The dispensary statistics were, according to Lady Dufferin, illustrative of the *lack* of female attendance because more men than women attended and, since women would invariably need more medical attention than men, a large number of even low caste women must be forsaking medical aid rather than risk exposure to a man. Lady Dufferin. 'The Women of India'. p. 365.

[123]Lal. 'The Politics of Gender'. p. 41.

[124]Blackwell. 'Medical Women for India'. p. 12; Lal. 'The Politics of Gender'. p. 42.

[125]Blackwell. 'Medical Women for India'. p. 13.

spiritual. This attitude and the picture of suffering sisterhood[126] provided the legitimating rationale for the training and export of medical women. That the 'Indian woman' desired the help of western medicine was never questioned, and the silence of the suffering sisters themselves was construed as stemming from characteristic ignorance of their own needs or as being typical of the behaviour of women subjected to centuries of male oppression and domination.[127] In this way, their very silence was interpreted as being a positive justification for western interference - these women were to be the object of pity and compassion, and the recipients of copious western aid and wisdom whether they desired it or not.[128] The promoters of female medical education were able to harness the plight of India to their own ends, and the establishment of the London School of Medicine for Women was partly an endeavour to meet this perceived need.[129] Sophia Jex-Blake certainly ascribed the realisation of medical training for women in some part to the imperial connection, in that it provided evidence of a clientele for the lady doctor and gave women an active role and stake in the Empire.[130]

Certainly, a significant proportion of the LSMW graduates found employment in the East, sufficient enough to prompt William Cowper-Temple into recommending that a special fund to be created for the LSMW, to guarantee that it could continue

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[126]Lady Dufferin denounced this picture as one-sided and false, stating that purdah did not embrace the whole of Indian womanhood and that the Zenana was not necessarily a torturous prison. Nevertheless, she was instrumental in setting up an organisation to alleviate that very suffering. Marchioness of Dufferin. 'The Women of India'. pp. 360-1.

[127]Elizabeth Beilby, for example, remarked that the women of the Zenana did not realise their need for the medical expertise of the western woman. Burton. 'Contesting the Zenana'. p. 389.

[128]Lal. 'The Politics of Gender'. pp. 43-44. The solitary plea from the Maharani of Punna was presumably the exception that proved the rule.

[129]Although the primary purpose was to provide women with access to medical education and clinical practice.

[130]English women in India were deprived of any function other than decorative domesticity or 'ethnography', which term encompassed the indefatigable sketching and travel writing of the European females in India. Suleri. *The Rhetoric of English India.* p. 75; Burton, A *Burdens of History: British Feminists, Indian Women and Imperial Culture, 1865-1915.* (Chapel Hill, 1994). p. 112.

to provide potential Zenana attendants.[131] The London School of Medicine for Women was at the forefront of the campaign to promote and, if possible, ensure that only fully trained and licensed lady doctors took their trade to India. Although spurred by a legitimate concern to safeguard the professional status of lady doctors, this campaign also allowed the LSMW to assume a monopoly over the medical missionary market. Only at the LSMW could women receive this full theoretical and clinical training, and therefore, only LSMW graduates were fit candidates for medical missions.[132] This interpretation is perhaps somewhat machiavellian, but while it is not the intention to portray Garrett-Anderson, Thorne and the rest as lacking in genuine concern and commitment, they were certainly not blind to the difficulties surrounding the embryonic female medical profession. Maneesha Lal suspects Garrett-Anderson of an astute manipulation of the Indian issue, seeing in her identification of the LSMW with Zenana work, an adroit manoeuvre to capture public attention and regard for the School, and simultaneously supply a recognised focus for the employment of the graduates.[133] Indeed, ratifying the right of the female doctor to exist and to *practice* was still an urgent necessity in the 1880s, and appropriating the trade in medical missionaries helped to supply that legitimacy.[134] Employment prospects in the East were, however, genuinely favourable, and many of the early LSMW graduates did decide to follow this career route. The *Daily Graphic* in 1890 asserted that the majority of graduates 'proceeded to India',[135] and archival evidence from the LSMW seems to support this claim. Career prospects in

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[131]Burton. 'Contesting the Zenana'. p. 373. Cowper-Temple also made mention of a recent petition of 16 000 signatures from women in England claiming the right to be attended by a member of their own sex. This 'separate sphere' argument was another favourite theme for promoters of women's medical education, although the India thesis was preferred as it offered no indication of territorial encroachment on male practitioners in Britain.

[132]Garrett-Anderson. 'Medical Women for India'. *The Times.* (October 31, 1881); Burton. 'Contesting the Zenana'. p. 388.

[133]Lal. 'The Politics of Gender'. p. 51.

[134]Burton. *Burdens of History.* p.112.

[135]Burton. 'Contesting the Zenana'. p. 391; Hoggan, F. 'Medical Work for Women in India'. Part II. *Englishwoman's Review.* (May 15, 1885). pp. 193-200, p. 194.

India were definitely promoted in the LSMW, and there was even an annual scholarship of £50 per year awarded to the most promising applicant from the LSMW who pledged to work in India for five years after graduation.[136] By 1886, one fifth of the fifty women on the British Medical Register were practising in India, the majority of whom would have been educated at the LSMW since it was still the sole institution where women could gain comprehensive medical training in England.[137] With such a vested interest and, eventually, a strong tradition in the supply of medical missionaries, it seems somewhat ironic that the hierarchy had been initially rather hostile to the practice, and that the London School itself was a rather secular place. Fanny Butler had established a Bible Study and Prayer Union to try and inculcate a more spiritual tone, but even twelve years later, the secular nature of the School had not been significantly altered.[138]

The powerful image of the Zenana drew even Queen Victoria into its thrall. The entreaty from the Maharani of Punna had been answered graciously and intangibly with expressions of goodwill and a photograph of her Imperial Majesty, which was to be shown in Indian homes so that all her native subjects might see how much

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[136]Burton. 'Contesting the Zenana'. pp. 391-392. Burton quotes the Entry of Students 1874-1927 ledger; the memoirs of several notable graduates of the LSMW all of whom achieved renown in India; the reports of the alumnae in the school magazine; and the Executive Committee reports 1884-1899 - all of which evidence a definite Indian bias. However, it is perhaps worth suggesting that this veritable traffic to India may seem more significant because of the availability and relative ease of practice there. That is to say, the women who are quoted by Burton all achieved a measure of celebrity or distinction which might well have been more difficult to come by had they remained in England and tried to establish themselves there. Garrett-Anderson and Jex-Blake distinguished themselves in the first instance by advancing the cause of education and then establishing the LSMW, but pioneers are by their very nature notorious, whereas the second generation would have to make their mark in a more prosaic manner and this may well have been difficult in the prevailing climate of professional congestion. Jex-Blake however, argued forcefully that women could very well establish themselves in England if they showed patience, skill and realistic expectation, although Elizabeth Garrett-Anderson thought practice in England only possible if, in addition to Jex-Blake's criteria, the women had enough money and friends to survive the initial drought in income. Very few had such a financial buffer. Jex-Blake. 'Medical Women'. p. 700; Elizabeth Garrett-Anderson. 'Medical Women for India'.

[137]Lal. 'The Politics of Gender'. p. 51; Burton. 'Contesting the Zenana'. p. 391.

[138]Tonge, E M. *Fanny Jane Butler: Pioneer Medical Missionary.* (London, 1930). p. 10; Burton. 'Contesting the Zenana'. p. 379.

their Empress cared for them.[139] She maintained a dilatory interest in the affair, charging Harriot Dufferin, wife of the new Viceroy, in 1885 with her express wishes that something be done for the poor Indian women. Victoria was reputedly certain that India needed women doctors, although incongruously, she was also a vehement opponent of medical training for women in England.[140] Whether or not in response to the royal influence, the Countess of Dufferin's Fund or *The National Association for Supplying Female Medical Aid to the Women of India* was born in August of 1885, and achieved much in the brief phase of activity that coincided specifically with the sojourn of Lady Dufferin as vicereine, and her tenure as President of the Fund.

THE COUNTESS OF DUFFERIN'S FUND 1885-1888.

The Dufferin Fund, although coming in the wake of countless enterprises by various missionary bodies, was the first attempt to provide wholesale, organised medical relief to the women of India. It was also the first such endeavour to be sponsored, albeit unofficially, by the Government.[141] Lady Dufferin initially spent several months investigating the quality and availability of medical care in India. Having 'independently' decided that further action was needed, she inaugurated her fund on 18 August 1885.[142] The Fund identified three areas of necessity - the training and provision of female physicians, initially from England; the establishment of organised and comprehensive medical relief in the form of hospitals and dispensaries, staffed by women medics and conforming to the principles of purdah; and the provision of trained nurses and midwives to attend at the hospitals and in

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[139]Lal. 'The Politics of Gender'. p. 34.
[140]Manton. *Elizabeth Garrett-Anderson.* pp. 186 & 269.
[141]Lal. 'The Politics of Gender'. p. 31. The only other involvement had been the enforced medical inspection of prostitutes, who were regarded as a threat to the health of the Army. Until 1885, the Colonial Government focused it's attention in matters of health on the Army first and the European community second. The health of the native was a matter of supreme indifference.
[142]Lal. 'The Politics of Gender'. p. 35.

the Zenanas.[143] Both the aims and the organisation of the prototype Dufferin Fund were laudable, but despite a desire to be independent of Government interference, the Fund's central hierarchy was awash with the Governmental elite and Indian aristocracy. It seems somewhat contradictory that the Government should have offered sponsorship, however unofficial, and personnel to an enterprise that not only failed to criticise the 'barbaric' practice of purdah, but actually supported it in practical terms, while the Government was simultaneously supposed to be working towards an eradication of the Zenana. Nevertheless, the inclusion of high-ranking colonial officials and prestigious Indian representatives on the Central Committee, and the existence of financially and administratively autonomous sister branches throughout British India were regarded as praiseworthy innovations.[144] Branches of the Dufferin Fund were set up in England to raise subscriptions and funds, and to co-ordinate the recruitment and export of women doctors to India.[145] The Fund's beginnings were auspicious, with £10 135 raised in the first five months;[146] and two years later, the Jubilee Fund garnered £33 333 in India and nearly £2 000 in England. By 1888, the Fund total stood at 700 000 rupees (£46 600) of which rs. 550 000 was invested to provide an annual income of rs. 30 000 (£2 000). The remainder was invested in grants-in-aid and infrastructure.[147] The provincial branches raised around rs. 300 000, which was employed in a similar way, whilst the money collected by the Home branch was used to pay passage for physicians and nurses travelling to India.[148] In spite of vigorous campaigning and a steady round of fund raising events,[149] Lady Dufferin was disappointed in the income of

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[143]Lal. 'The Politics of Gender'. p. 35.
[144]Lal. 'The Politics of Gender'. p. 35. The branches were located in Berar, Bengal, Bombay, Burma, Central Provinces, North-West Provinces and Oudh, Punjab, Madras and Mysore.
[145]Balfour and Young. *Medical Women in India.* p. 37.
[146]Lal. 'The Politics of Gender'. p.36. £9 900 of this was raised in India, £235 in England. Of the money raised in India, 47% came from Maharajas and Nawabs who were made life councillors of the Fund.
[147]Lal. 'The Politics of Gender'. p. 56.
[148]Lal. 'The Politics of Gender'. p. 56.
[149]Such as garden fêtes and charity balls.

the Fund and, indeed, it was hopelessly inadequate for the purposes defined at the outset. Nevertheless, for the duration of Lady Dufferin's stewardship, the Fund continued to be active, focused and relatively well-organised. Hospitals and dispensaries were built under its aegis and were provided with rudimentary equipment and staff, fund raising continued, and the various projects were discussed at the regular central committee meetings. The activities of the Fund in England secured the attention of the British public, and attracted interest from newly qualified medical women. The Dufferin scheme enabled women doctors to attain high grade hospital and dispensary positions which might prove elusive in the competitive British field.[150] It also supplied financial support to prospective women doctors, and relations between the LSMW and the Fund were both symbiotic and cordial.[151] The Dufferin Fund relied on the LSMW for the supply of qualified high calibre medical personnel, while the prospect of financial assistance in training and a hospital or dispensary appointment in the future, safeguarded the flow of candidates to the LSMW.[152] Indeed, so efficient was the Fund at securing rewarding opportunities for its staff, that Mary Scharlieb recommended the Dufferin Fund above all others as an employer for those wishing to enter medicine in India.[153]

However, perhaps the most significant aspect of the Fund was its expressly non-sectarian character. Other agencies for the relief of the Zenana were almost all

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[150]Burton. 'Contesting the Zenana'. p. 376.

[151]Burton. 'Contesting the Zenana'. p. 387. The LSMW was similarly involved and well-represented in the NIA discussions about the future provision of medical women for Indian service, and when the Medical Women for India Fund was set up in Bombay in 1882, James Stansfield (a member of the Governing Board of the LSMW) pledged that the LSMW would do all it could to guarantee the supply of medical women. The LSMW thus established itself as a seemingly indispensable, vital link in the project, which could only serve to further and enhance it's own reputation and interests.

[152]Burton. 'Contesting the Zenana'. p. 391.

[153]Burton. 'Contesting the Zenana'. p. 393. Mary Scharlieb's pamphlet 'How to Become a Lady Doctor', in which this recommendation was made, was published in 1888 at the time when the Dufferin fund was at it's most active and efficient.

associated with religious organisations and usually operated a hidden agenda.[154] Lady Dufferin was determined that her Fund should be free of all such evangelical entanglements, and she therefore made a formal representation that no medical missionaries should be accepted as Fund physicians.[155] She made specific mention of this attitude in the first annual report, not only expressing her intention to prohibit any mission personnel from formal involvement with the Fund, but also categorically stating that none of the Dufferin medical staff would interfere in the religious practices or beliefs of the clients.[156] This enabled subscriptions to be raised from the maharajahs, nawabs, landowners and Indian officials, who would be reluctant to donate money that might otherwise have be used to inculcate conversion among the Zenana inhabitants. Nevertheless, although many Indians wished to preserve the Zenana from the proselytising missionaries, some Indian nationalists were not particularly enamoured of the idea of crown agents entering into the last bastion of Hindu tradition. The Zenana, by its very nature, had been partially inaccessible to the Imperial government, and there were those who therefore regarded it as a hallowed symbol of passive resistance.[157] Yet, however favourably Lady Dufferin's albeit benign condemnation of the activities of the missionary societies was viewed in some circles, it did generate a degree of hostility towards the Fund among others. Some societies feared encroachment into their territory, and were averse to losing clients to campaigners who would leave

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[154]The Medical Women for India fund, established in Bombay in 1882, was one exception to this rule. It concerned itself wholly and exclusively with medical treatment and was designed not only to staff a hospital with female physicians, but also to lobby the Bombay University medical school and the medical college to admit Indian women. It was this agency which recruited Dr Edith Pechey as Senior Medical Officer in it's first hospital. The neutrality of the scheme may have been due to the involvement of the native Bombay businessmen who largely financed the venture. Lutzker, E. 'Edith Pechey Phipson, M.D. : Untold Story'. *Medical History*. Vol. 11, (1967). pp. 41-45. p. 43.
[155]Lal. 'The Politics of Gender'. p. 36.
[156]Lal. 'The Politics of Gender'. p. 36, quotation from the first annual report, (Calcutta, 1886); Burton. 'Contesting the Zenana'. p. 375. This attitude appropriately reflected the assurances made by Queen Victoria in the wake of the 1857 Mutiny.
[157]Lal. 'The Politics of Gender'. p. 46.

Christian enlightenment at the door.[158] Burton insists that there was complete harmony among the various bodies proffering medical relief in India, all of whom welcomed the foundation of the Dufferin Fund and worked willingly to aid its efforts.[159] Nevertheless, despite the genial attitude of the Government of India, the involvement of the Indian aristocracy, and the patronage of the Queen Empress, the Dufferin Fund was not without critics.

The criticisms levelled at the Dufferin Fund embraced both the existence *per se* of the agency and its organisational effectiveness. As stated, some of the missionary societies regarded the presence of the Dufferin operation with disquiet; and some of the natives were equally suspicious, regarding it as a potential trojan horse designed to carry colonial interests, masquerading as benevolence, into one more sphere of native society.[160] Other native spokesmen recognised the possibility of practical benefit in the Dufferin Fund proposals for the education and training of native women. They welcomed the idea of English medical women coming to India to train Indian girls in medicine and nursing, and *then leaving,* regarding that as true benevolence, untainted by self interest or a colonial sub-text.[161] What they did not welcome was the possibility of a new breed of permanent European residents intent

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[158]Lal. 'The Politics of Gender'. p. 53. Some actually thought that such a practice would be impossible to uphold, since the European physicians could not help but share their views with the natives.

[159]Burton. 'Contesting the Zenana'. p. 390. This is perhaps a little rosy a view, for although all were probably glad to see a sign, albeit informal, of Government commitment to women's healthcare, there was certainly a lack of cordiality towards the Fund in later years. Burton mentions the NIA, the National Indian Association, which was set up by Mary Carpenter when she returned from travelling in India in 1870. The primary goal of the NIA was educational, but it regarded medical education and assistance as equally valid and surveyed the status of the medical missions as a prelude to launching a campaign for guaranteeing the services of medical women for Indian Zenanas in 1882. Undoubtedly, the NIA regarded the Dufferin Fund with nothing but joy, embodying as it did the specific proposals put forward by the NIA campaign in 1882.

[160]Lal. 'The Politics of Gender'. p. 54. There was also the issue of funding. It was envisaged that eventually the activities of the Fund would be transferred to the control and financial care of the Indians themselves. This was viewed askance by nationalists, who thought they were being asked to give financial support to Imperial interests.

[161]Lal. 'The Politics of Gender'. p. 55.

on infiltrating the sacred core of Indian culture.[162] Further grounds for hostility to the concept of a western agency centred around the belief that the Fund was actually designed to serve the interests of the European women in India.[163] This idea was not based on the presumption that the medical care provided would be available only to the European community, but rather that the medical women would be paid vast sums of money, collected from native subscription, and achieve very little.[164] The magazine *East* suggested that the whole premise underlying the provision of the lady doctor was false, since even if they succeeded in passing through the physical barrier of the Zenana, they would still be unable to communicate without a thorough knowledge of the language and the customs of those residing within - neither of which was currently required of the Fund candidates. *East* further concluded that the Dufferin Committee had failed to appreciate that the traditional reserve of native women was as impenetrable a barrier to western contact as the purdah veil was to the native man.[165]

However, there was also support for the Dufferin Fund, even among the native community. Favourable comment came chiefly from the Indian Press, although this typically represented the views of the Indian elite who had embraced and benefited from many aspects of western society. Thus, it was no more objective or universally representative than the nationalist press.[166] Nevertheless, even their endorsement was partially warranted by the willingness of the Dufferin project to accommodate traditional practices, such as purdah, and not to attempt to dislodge

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[162]The preserve of the female was regarded by Indian nationalists as the one inviolable bastion of cultural tradition. Sara Suleri similarly identifies the role of English women in India as the personification of English culture, and terms them 'the valiant keepers of tradition'. Suleri. *The Rhetoric of English India.* p. 78.

[163]Lal. 'The Politics of Gender'. p. 54.

[164]Lal. 'The Politics of Gender'. p. 55. Lal quotes the *East* magazine of October 1885, which referred to previous schemes which had resulted in just this practice, despite the very laudable intent with which they began.

[165]Lal. 'The Politics of Gender'. p. 54.

[166]Lal. 'The Politics of Gender'. p. 54.

them by legislative interference or religious manipulation. As Maneesha Lal has pointed out, the existence of the Dufferin organisation was unlikely to have impinged on the peasantry at all, since they were unable to take advantage of any medical services which were located more than a short walkable distance away.[167] However, despite their cynicism and the sceptical critique of her Fund, the nationalist press was unstinting in its praise for Lady Dufferin's work and achievement in India when she stepped down in 1888.[168] The public displays of worship and adoration for the couple were undeniably choreographed, especially since Lord Dufferin was not a favourite with the nationalists. Lal identifies laudatory passages about the Dufferin Fund in the *Dacca Gazette*, *Sanjivani*, *Mahratta*, *Phoenix* and *Sind Times*, although it is unlikely that the British Authorities would have permitted defamatory passages to be published in the national papers, especially given the high official standing of many of the sponsors of the Fund. Nevertheless, to publicly applaud the activities of the Vicereine whilst remaining silent on the achievements of the Viceroy, could be seen as significant political comment, and it is possible that some of the expansive praise for the Dufferin Fund sprang from a desire to decry the Dufferin administration. Evidence does suggest, though, that there was a genuine sense of gratitude and respect for Lady Dufferin, albeit not quite as fulsome as the carefully staged public demonstrations suggested.[169]

Criticism of the Fund was not, however, limited to the Indian nationalists and a few disgruntled missionaries. Dissatisfaction spread quickly among interested parties, principally regarding the management of the Fund and the quality of the service it

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[167]Lal. 'The Politics of Gender'. p. 54. A day or more spent trekking to and from the hospital was a serious economic handicap.
[168]Lord Dufferin's term as Viceroy had elapsed and they were returning to England, where Lady Dufferin interested herself in the activities of the British arm of the Fund.
[169]Lal. 'The Politics of Gender'. p. 59.

was providing. The ground swell of dissension did not really begin until after Lady Dufferin had sailed for England. While she had been at the helm, the Fund had remained relatively buoyant and had steered a course which, although lacking the progressive thrust originally envisaged, was at least of reputable strategy. However, with the departure of the navigator, the Fund began to wallow aimlessly and in the twenty-five years following Lady Dufferin's retirement, it did not progress in terms of finance or operation. The lacklustre spirit of the succeeding vicereines[170] meant that the Fund never again enjoyed a period of energetic and committed leadership, and the Central Committee degenerated into an administrative rubber-stamp, content to oversee ongoing projects undertaken by the local centres and to afford retrospective authority to new ventures.[171] That the Fund continued to make any progress at all was due to the prestige and influence of the remaining sponsors and to the genuine and vigorous efforts of the local projects.[172] Among the other organisations working for the relief of women in India, a chief source of vexation with the Dufferin Committee was the Annual Report of the Fund. This catalogued all the work undertaken for the provision of medical aid to the women of India and, as such, detailed projects which were not even remotely associated with the Dufferin scheme. Iniquitous as this seems, Balfour and Young argued that the Report was intended to provide the public with as full a picture as possible of the relief work in India, and that it was not the intention of the editors to claim credit for the work of other agencies. Indeed, they emphasised that the work done by non-Dufferin organisations was clearly cited. Whether or not this was true, the fact

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[170]Lal. 'The Politics of Gender'. p. 61; Balfour and Young. *Medical Women in India.* p. 66. Lal does observe that the role carved out by Lady Dufferin was unique and innovative, and she also stresses that the vicereines who came after Harriot Dufferin often took up their own pet projects, which meant that their presidency of the Dufferin Fund had to take second place. These other vicereine funds were equally worthwhile enterprises, such as Lady Curzon's scheme to train indigenous midwives; Lady Chelmsford's league for Maternity and Child Welfare; and Lady Reading's fund for a women's hospital at Simla. All these built on the familiar theme of healthcare.
[171]Balfour and Young. *Medical Women in India.* pp. 38 & 41. The annual stipend remained at £2 000 per year, making it impossible to attempt any ambitious projects.
[172]Balfour and Young. *Medical Women in India.* p. 39.

remained that the Fund was *perceived* to be deliberately appropriating the achievements of others and seeking to survive on their reputation. The relative inactivity of the Fund itself merely added insult to that injury.[173]

However, not all the criticism was external, and within the Dufferin organisation itself the major bone of contention was the decision to permit the supervision and inspection of the Dufferin hospitals and physicians by the civil surgeons and members of the IMS.[174] Lady Dufferin had agreed to this concession in the early days of the Fund, both as a means to appease the male medical establishment and in order to secure the status of the female physicians and the hospitals.[175] However, it soon became a focus of considerable resentment and hostility, with antipathy crystallising over two main issues - namely, the status of women doctors and the preservation of the sanctity of purdah. Specialist hospitals for women existed for the very purpose of providing clinical care to the *purdah nishin,* and this necessitated the observation of a protocol as detailed and strict as that required for the preservation of clinical sterility. The trust of the patients and, just as importantly their male relatives, hinged on the ability of the hospital and staff to guarantee that the stringent modesty of seclusion was not violated. Without this proven assurance, the hospitals could not hope to establish a practice and would have no future. The existence of a hierarchy of male supervision was, in this context, highly prejudicial. The civil surgeon inspections had initially been designed as a series of formal visits, and had this procedure been followed there would have been no cause for dissent on account of purdah. However, the civil surgeons initiated a system of surprise inspections which wholly undermined the confidence of the patients and the integrity of the doctors. Balfour and Young

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[173]Balfour and Young. *Medical Women in India.* pp. 39-40.
[174]Indian Medical Service. The constitution of the Fund required 'all members of the association to act in harmony with and, if necessary, *in subordination* to the Medical Officers of the Government'.
[175]Lal. 'The Politics of Gender'. pp. 53 & 58.

maintain that this was not done with malicious intent, but was rather the product of ignorance and supercilious condescension. Some of the civil surgeons had been permitted to treat the wives of strict Hindus and Muslims, and were, therefore, either not aware or did not believe that other men would not view such practices with equanimity. These surgeons regarded the female physicians as being fanciful or overly concerned, and would not be deterred.[176] Nevertheless, the friction over purdah was of less concern to many than the degrading subordination demanded by the Dufferin agreement.

The Central Committee had sought government inspection for pragmatic reasons, but Lady Dufferin had also envisaged that such supervision would be helpful and comforting to the newly-arrived, recently qualified female physicians. This was perhaps true in the first instance, but the contract left no avenue for eventual independence, while the nature and vicissitudes of IMS service resulted in the ludicrous situation whereby a fully qualified, trained and experienced lady doctor would effectively and repeatedly be made subordinate to civil surgeons, younger in years and inferior in practical experience to herself.[177] Nevertheless, despite the obvious difficulties, the two groups were generally able to work in relatively harmonious accord, except in the practice of surgery.[178] Some of the civil surgeons regarded the surgery in *all* hospitals in their district as lying under their jurisdiction and expertise, and they were unwilling to relinquish this right in regard to the Dufferin hospitals. Some of them also retained a degree of old-fashioned prejudice against the notion of female surgeons.[179] For the women doctors, the initial relief at having an experienced surgeon on hand quickly turned to chagrin when they found themselves fighting for the right to operate in their own hospitals. The situation

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176Balfour and Young. *Medical Women in India.* p. 44.
177Balfour and Young. *Medical Women in India.* pp. 43-44.
178Balfour and Young. *Medical Women in India.* pp. 44-5.
179Balfour and Young. *Medical Women in India.* p. 45.

was further exacerbated by the damaging inferences that could be drawn from a lack of surgical finesse. If the female physician did not operate frequently and in a variety of cases, she would not be competent to deal with emergencies and would lose the confidence of her patients. The Zenana dimension was particularly important in this issue, since the tendrils of purdah reached into the operating theatres too; thus, the civil surgeon would not be permitted to attend cases involving *purdah nishin*, and the need for the female doctor to be capable and experienced was, therefore, vital. Without regular practice and control in theatre, the female physician could not hope to comply with the wishes of her patients *and* perform adequate surgery, and the difficulty of enticing the *purdah nishin* to the hospitals put further pressure on the staff to ensure that seclusion was as impeccable in surgery as it was on the wards.[180] These difficulties and the damage to the status of the female doctors caused by their continued subjection to enforced supervision by the male civil surgeon, was a source of considerable vexation; and although amicable relations were the norm and many civil surgeons were both courteous and unassuming, the humiliating subordination and occasional controversy which resulted in a skilled and dedicated female doctor leaving India, caused outrage even among those unaffected by such hostility. The inability or unwillingness of the Dufferin Fund to rectify the situation damaged its reputation in the eyes of both current and potential employees, and forced them to look elsewhere for professional support.[181]

Disaffection grew to such an extent, both in India and in England, that in 1907 the Association of Medical Women in India was formed to enhance and further the careers of female doctors in India. However, their Quarterly Journal was so inundated with detrimental reports and complaints about the Dufferin Fund, that the

[180]Balfour and Young. *Medical Women in India.* p. 45.
[181]Balfour and Young. *Medical Women in India.* p. 46.

AMWI decided to attempt to redress some of the grievances. They recommended to the Central Committee of the Fund that they make some basic changes to their organisation, such as appointing a medical woman as secretary of the Fund, including *at least* one medical woman on the Central Committee, and setting the service of Medical Women in India upon the same lines of government sponsorship as the IMS.[182] The response of the Fund was favourable and Dr Katherine Vaughan, who had been part of the deputation that approached them, was immediately appointed to the Central Committee and invited to inspect the hospitals run by the Fund. In Britain, the AMWI lobbied the Secretary of State for India urging reforms in the supply of medical women to India, but although he promised a review, no action was taken until the public press took up the gauntlet.[183] Growing agitation over the iniquities of the system eventually forced the Government of India to make inquiries, and it requested an evaluation of the capability of the Dufferin Central Committee to supply the medical needs of the women of India. The Committee replied unequivocally that measures were urgently needed to secure better pay and improved prospects before medical women would be attracted towards working for the Dufferin Fund. The attitude of the Central Committee seems to have been wholly co-operative, and there even appears to have been a sense of relief among the Fund hierarchy that the responsibility for organisational change was being assumed by an external agency; an attitude that supports the testimony of contemporaries and the conviction of historians, that the Dufferin Fund was little more than a cipher after the loss of Lady Dufferin. After much debate, the Government decided to make an annual statutory grant to the Dufferin Fund, providing they could design a suitable and effective system. This

[182]Balfour and Young. *Medical Women in India.* p. 46.
[183]Balfour and Young. *Medical Women in India.* p. 47. The first deputation to the Secretary of State was in 1910. A second deputation of 54 people went to see Lord Crewe in 1912.

scheme, evolved in 1913 by the Dufferin Central Committee, was the Women's Medical Service.[184]

The action of the Government in vesting administrative control for the WMS in the hands of the Dufferin Fund led many to conclude that the venture was purely a half-hearted measure of appeasement, rather than a genuine attempt to improve the quality of medical service for women. Technical faults were found in the size of salaries and there was dissatisfaction over the first recruits to the WMS, since the Central Committee decided to appoint personnel on the basis of significant experience and immediate availability, rather than on academic credentials.[185] However, despite initial teething troubles, within 14 years the pay and conditions had improved sufficiently to tempt the highest calibre medical women to India. Benefits introduced under the new scheme included permanence of service, a scale of salary increments, a provident fund, furlough every 3-4 years, study leave, the right to attend all meetings of hospital committees, full *professional* control of the hospital, and the transfer of responsibility for personnel from the local committees to the Central organisation. The centralised control of employment allowed staff to be transferred between hospitals, and also meant that the burden of the doctor's salary was removed from the hospital committee, allowing them to use funds for nursing and equipment instead.[186] The WMS also benefited from the advocacy and sponsorship of men such as Sir Pardy-Lukis, Director-General of the IMS (1910-17); Lieutenant-Colonel Austin Smith, surgeon to the Viceroy; and from the early

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[184]Balfour and Young. *Medical Women in India.* pp. 48-50 & 69. In 1927, the grant stood at £28 500.

[185]This was partly an issue of maintaining good relations with the local centres. To have replaced the women who had been invaluable to the local schemes under the original Dufferin model would have caused friction, if not an outright breach, with the local committees and would possibly have alienated the clientele too.

[186]Balfour and Young. *Medical Women in India.* p. 50. The first joint secretary of the Dufferin/WMS committees was Dr Margaret Balfour.

patronage of the vicereine and Fund president, Lady Chelmsford.[187] In 1917, the system was re-evaluated with the intention of raising the status of women doctors in India, and thereby enhancing the reputation of the service in England where it had not enjoyed wholehearted support. To that end, salaries and benefits were increased and the administrative control of the hospital was placed wholly in the hands of the physician.[188] Frictions persisted, most notably between the Central and local committees, but on the whole the WMS was successful in increasing the status and welfare of the medical staff under its care.

To provide a fair evaluation, the achievements of the Dufferin Fund and WMS must necessarily be judged against their original aspirations, rather than the expectations of retrospective wisdom. The Dufferin Fund was initially established to fulfil certain specified criteria, namely the supply of trained medical women for India; the establishment of dispensaries and hospitals for women; and the provision of trained nurses and midwives. The explicit, long-term objective was to facilitate the staffing of those hospitals and dispensaries with *Indian* doctors and nurses.[189] By 1888, when Lady Dufferin's superintendence ceased, the Fund employed eleven medical women. Six had been recruited in India,[190] while a further five had been brought from England. Lal regards this as a rather modest total, but had the recruitment continued at a similar pace, or even at half the pace, the cohort would have been significant by the eve of the First World War.[191] However, in 1914 when the Central Committee began re-recruiting for the WMS, it could only afford to hire twenty-five women. Whilst these statistics do not provide an accurate gauge by

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[187]Balfour and Young. *Medical Women in India.* p. 55. Lady Chelmsford was both an adept businesswoman and a perceptive patron, realising that in order to attract the elite candidates it was necessary to offer commensurate conditions. She promoted the work of the WMS, as well as interesting herself in the individual schemes and projects.
[188]Balfour and Young. *Medical Women in India.* pp. 55-6.
[189]Burton. 'Contesting the Zenana'. p. 375.
[190]They were British doctors already working in India - *not* Indian or even Anglo-Indians.
[191]Lal. 'The Politics of Gender'. p. 57.

which to judge the intervening levels of employment, it seems unlikely given the stagnation of the Dufferin Fund after 1888, that the period up to 1914 saw a heavy recruitment of medical staff, even accounting for the responsibility of the local projects to contribute a share of the salary. However, in the twelve years following the inception of the WMS, the complement of medical women had risen to 44. These figures are barely sufficient to illustrate the nature of European employment, but the statistics referring to the recruitment of native trained doctors are clearer and rather more damning. By 1895, the Dufferin Fund only employed two Indian doctors, neither of whom had received training or financial aid for training from the Committee.[192]

Issues of recruitment and the overall quality of the staff appointed were not the only criticisms, and the Dufferin Fund was also censured for the poor standard of equipment and levels of staffing.[193] Balfour and Young did not seek to contradict the veracity of these findings, but instead stressed the divisional structure of the Fund organisation, which left the Central Committee powerless to control the administrative and financial distribution of individual hospital revenue. Indeed, since the endowments from the Central Committee were very small and the hospitals had to promote local fund-raising in order to survive, the individual managers were far better able to determine the most effective use of their finances than the Central Committee.[194] In addition, an erratic and precarious income was not compatible with the provision of sophisticated technology or comprehensive staffing. The problem of obtaining sufficient staff for the hospitals and dispensaries was exacerbated by a signal lack of trained and available nurses. Indian assistants

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[192]Burton. 'Contesting the Zenana'. p. 376.

[193]A further criticism was that discussed earlier with regard to the civil surgeon inspection that broke the purdah preserve - an integral part of the Dufferin creed.

[194]Balfour and Young. *Medical Women in India.* pp. 40 & 42. Balfour and Young make the point that the criticisms made of the Dufferin schemes might have been less severe had the restricted level of income generated by the Fund been more widely appreciated.

were understandably rare given the poor educational standard of most native women, a standard which was reflected in a literacy level of only 21 per 1 000 in 1921 and which meant that very few were able to consider attending college.[195] Many of the higher caste girls were debarred from even contemplating medical training because of the restrictions of purdah and strict notions of respectability.[196] Nevertheless, despite the low levels of national literacy and the rigid dictates of cultural compliance, there was a source of trained native hospital assistants in India. The mission schools and orphanages provided not only material comfort and spiritual guidance to their charges, but also supplied them with vocational education and the means to make a livelihood. Nursing was one avenue offered by these schools, and the missions typically engaged hospital superintendents from England to train the local girls under their care and tutelage. Once trained, these girls could obtain employment in the mission hospitals. However, although the native girls achieved a high standard of skill and the need for nurses was widespread and desperate, the missions were unwilling to relinquish these girls to the Dufferin projects because of fears that their moral and religious instruction would be neglected or even undermined.[197]

Nevertheless, in the early twentieth century the metamorphosis of the Dufferin Fund into the WMS facilitated a degree of progress that had been impossible in the years of stagnation and neglect. Hence, by 1927 of the 87 western run women's hospitals in India, the WMS was responsible for 25, with the other 62 staffed by medical

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[195]Balfour and Young. *Medical Women in India.* p. 8. The towns tended to have a better proportion of literacy (Madras, 190 per 1 000, Bombay 160 per 1 000 and Calcutta 270 per 1 000), but it was still very low considering that it represented the efforts of a good fifty years of missionary education.

[196]Blackwell. 'Medical Women for India'. p. 24; Balfour and Young. *Medical Women in India.* pp. 40. In September 1883, the Editor of the *Brahmo Public Opinion* praised the intent of Western medical schemes to educate native women in medicine, but doubted if success would be significant because 'there are very few pure Indian ladies prepared to learn the healing arts'.

[197]Balfour and Young. *Medical Women in India.* p. 40.

women in the employ of local committees or provincial governments. In areas where there was no separate hospital, there were often female wards in the district hospital, staffed entirely by female attendants; and in all medical establishments, Indian and Anglo-Indian nurses had become relatively familiar. As far as the clientele was concerned, the willingness of the native women to attend these specially built facilities had been inherently assumed. Some native men remained unwilling to permit their wives and daughters to attend the clinics and hospitals, even when the prohibitive presence of the male doctor had been removed, lest the excitement of such an excursion engendered in them a taste for going out. However, despite this, the returns from the Dufferin/WMS hospitals in 1921 argued an acceptance of and genuine need for the facilities.[198] The WMS was regarded, both then and since, as a relative success, although there continued to be dissatisfaction over the discrepancy between male and female medical service. The IMS salaries and benefits continued to exceed those of the WMS, despite the similarities in work and responsibility.[199]

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[198]Harrison. *Public Health in British India.* p. 95; Balfour and Young. *Medical Women in India.* p. 67. Eighteen returns were made in 1921 totalling an in-patient quota of 1 132 per annum. By 1927 this had risen to 1 557. By the same token, abdominal surgery cases stood at 438 and 1 049 respectively.

[199]Balfour and Young. *Medical Women in India.* pp. 72-3. The rationale behind this was that the IMS was a military service, and that the IMS duties also included responsibilities such as charge of jails, police surgeoncy and the office of medical officer of health. Balfour and Young, however, dispute that those grounds were sufficient to explain the gulf in conditions, particularly in regard to old age benefits. The assumption that male workers required additional remuneration to discharge family responsibility is specifically countered by Balfour and Young's assertion that women too may have had young relatives and parents to support, which would have precluded them from accumulating a retirement annuity. The comparative figures for 1927 show a starting salary of £584 per annum for the IMS, corresponding to £493 per annum for the WMS. After 25/24 years respectively, the gap yawned to £2 480 per annum for the IMS and £900 for the WMS. The WMS did, however, provide furnished accommodation and allowed for a degree of private practice which would have drawn the starting salaries closer. The IMS also permitted private practice, but the locale of many of it's stations would have rendered such aspirations futile. As far as pensions and annuities were concerned, the figures are even more divergent. The IMS offered a gratuity after six years service of £1 000, after twelve years this rose to £2 500, and after seventeen years service a £400 per annum pension was provided. The WMS provident fund would, after *twenty-five* years service, have been sufficient to purchase a £380 per annum annuity.

THE PROVISION OF MEDICAL TRAINING FOR THE WOMEN OF INDIA

The financial buoyancy of the Dufferin Fund was not sufficient to provide for the programme of training it had intended to offer the native women of India and, despite the vigorous denunciation of the activities of the Indian dhai by Lady Dufferin herself, the re-education of native midwives was another casualty of limited revenue. Indeed, the dhai retained a tenacious hold on her territory, largely for economic and cultural reasons. Dhais were local, accessible, affordable and familiar, and their practices and techniques were understood.[200] Moreover, it was a culturally hereditary occupation passed down from mother to daughter through a tradition of innate healing ability and the practitioners were necessarily always of the lowest castes, conforming to the concept of childbirth as a time of impurity and, therefore, contamination.[201] Colonial vituperation was unable to shake the stranglehold of the dhai until the twentieth century, despite numerous official and unofficial attempts. Initial efforts had foundered in the absence of female specialists, since male teachers had inadequate levels of expertise and often only theoretical knowledge. Furthermore, men were actually prohibited from demonstrating techniques in real cases of childbirth due to the restrictions of purdah and the sensibilities of the patient.[202] Frances Hoggan's assertion that far from being neglected, training for local midwives had been continuously available for twenty-six years, appears to contradict the findings of other contemporary witnesses. However, the schemes to which she was referring were attended by

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[200] Rao, M S. 'The History of Medicine in India and Burma'. *Medical History.* Vol. 12, (1968). pp. 52-62, *passim.* The dhais had originally been genuinely valued and skilful practitioners of the native medical arts, but by the nineteenth century, their knowledge, passed down time and again, was at best rudimentary and at worst primitive. Native medicine *per se*, had been forced into decline by religious prejudice and further marginalised by the European invasion.

[201] Forbes, G. 'Managing Midwifery in India'. Engels, D and Marks, S. (eds.) *Contesting Colonial Hegemony: State and Society in Africa and India.* (London, 1994). pp. 150-172. p. 168; Lal. 'The Politics of Gender'. p. 48; Balfour and Young. *Medical Women in India.* p. 127. The birth mother was traditionally 'untouchable' during the period of labour and for some time after; the attending dhai would also be contaminated by association, so her caste status was necessarily low. Higher caste women would not entertain the thought of becoming midwives.

[202] Balfour and Young. *Medical Women in India.* p. 128.

soldiers wives, ordinary European women, Eurasians, some native Christians and Hindus, but *not* by the actual traditional native dhais who were the principal target of criticism.[203] The advent of women doctors in India engendered a new spate of efforts to educate the dhais, even if only to provide them with the rudimentary elements of hygiene and proper procedure. The dissemination of even this basic knowledge was a potential lifeline, since the dhai traditionally responded to a difficult case with incantations and brute force rather than patience and gentle manipulation of the foetus. Equally, prolonged and excessive haemorrhage was regarded as a sign of beneficial cleansing rather than a potentially fatal complication.[204] Of these early attempts at instruction, one of the few successes was that of Miss Hewlett at Amritsar in 1886. A missionary of the CEZMS, Miss Hewlett was also a trained nurse and midwife who established a training centre in the city of Amritsar and actually paid the dhais to attend, the finance being provided by the municipal funds of Amritsar itself.[205] When the dhais had completed the course, they were given a certificate and encouraged to continue to report their cases with the inducement of a one rupee reward for each successful case. Although effective in Amritsar, this scheme was not widely copied, since it was labour-intensive, time-consuming and expensive, and required a substantial long-term financial commitment from the municipal committee and the acquisition of an energetic and vigilant tutor.[206] Miss Hewlett's success notwithstanding, the popularity and endurance of the dhai practice led Lady Curzon to establish the Victoria Memorial Scholarship Fund in 1903 to train indigenous midwives. This

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[203]Hoggan. 'Medical Work'. I. p. 152. It was the traditional, indigenous dhai who caused the most damage to the patient and despair to the early doctors, and it was this set of women on whom later efforts focused. The provision of alternative, non-hereditary midwives was of value, but they tended to be centred in the larger towns where medical provision was, in any case, more progressive and advanced, such as Calcutta, Bombay, Madras, Lahore, and Agra.

[204]Forbes. 'Managing Midwifery in India'. pp. 168-9.

[205]Balfour and Young. *Medical Women in India.* p. 129.

[206]Balfour and Young. *Medical Women in India.* p. 129. Miss Hewlett or her helpers visited each case.

enterprise faltered, however, because the clients neither expected nor required the dhai to have professional training, and continued to use the local untrained dhai in preference to the newly-trained midwife because she was both cheaper and more versatile, willing to dispose of the placenta, wash the clothes and do other menial chores.[207] Without a system of registration and certification, there was no way of introducing punitive measures against the untrained practice, but by 1927 the dhais had become more amenable to the presence of a trained midwife and would solicit help in cases of difficulty.[208] In addition, the clientele had become more selective, often willing to experiment with the more expensive, trained midwife, and this was a far more effective means of forcing dhais to accept western training and techniques than empty threats or bribery. The dhai could only survive as long as she retained a hold on the confidence of the women, and by threatening her livelihood the western reformers were able to encroach on her practice and eradicate some of her traditions. As with all systems of western medical provision, those in the villages and countryside were relatively untouched by progress. Poverty, isolation and the inaccessibility of medical provision meant that those in the most need of urgent medical aid were the least able to procure it. Nevertheless, for all the apparent success, neither the Dufferin organisation nor the medical missions were able to fully infiltrate or eradicate the tradition of the dhai.[209]

The emergence of a professional body of native female medical assistants and doctors, qualified in western standard medicine, was slow and erratic. There were, of course, Indian doctors of vedic medicine, but indigenous healing was not held in particular regard by the reforming colonials. In addition, there was a belief that the

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[207]Balfour and Young. *Medical Women in India.* p. 130.
[208]Balfour and Young. *Medical Women in India.* p. 133.
[209]Balfour and Young. *Medical Women in India.* p. 134; Forbes. 'Managing Midwifery in India'. p. 169. A further difficulty with attempting to train the native dhais was the language barrier. The classes were in English, and very few traditional dhais or even Indian women *per se* spoke or understood English. This factor was noted in the Dufferin Report in 1889.

native was incapable of training in the higher arts such as medicine and this attitude, expressed openly by Elizabeth Beilby and with more ambiguity by supporters of the Dufferin Fund, became symptomatic of the Dufferin organisation and retarded the progress of education for the female natives. Others, like Frances Hoggan, had been forthright in their validation of the ability of Indian women to study medicine. However, the female medical profession in India succumbed to a racially based hierarchy akin to that of the IMS, with the Europeans as the doctors and the Indian and Anglo-Indians in the lesser-grade posts.[210] Nevertheless, it was not only western prejudice that hampered the emergence of medical training for women in India, there was also the question of the poor level of basic education for girls and the limitations of purdah.[211] The few fragmented, individual attempts to run classes in medicine had floundered due to the inevitable inability of a single person with no facilities to provide adequate standards of training.[212] The majority of these speculative ventures had been established by the missions, but secular establishments fared little better. Women had been admitted to the medical classes at Madras University in 1874, but only four women attended and all of them were European or Anglo-Indian.[213] There were no more applicants at all until 1881-2, when six more enrolled. This time, there *were* Indian girls amongst the class, but ten women in nearly ten years was hardly impressive and the meagre enrolment perhaps reflected the unwillingness of Indian girls to attend mixed classes, as well as their low educational attainments. It was only in 1923 that Madras University

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[210]Hoggan. 'Medical Work'. II. p. 198.

[211]The Brahmin girls and women of higher caste were likely to have been better educated and more able to attempt advanced studies such as medicine, but were also more hemmed in by the restrictions of purdah. Zenana educational projects provided higher levels of primary education and conformed to the cultural strictures of the *purdah nishin.*

[212]Balfour and Young. *Medical Women in India.* p. 106. Schemes such as that of Dr Humphrey of the American Methodist Episcopal church at Naini Tal in 1869; Dr Clara Swain, also of the AMEC, in 1870; Babu Ganga in 1875. These efforts lasted a maximum of three years before disintegrating.

[213]Balfour and Young. *Medical Women in India.* p. 103. One of them was Mrs Scharlieb. It should be appreciated that the Madras Medical School offered education to women long before the equivalent was available in England.

finally bowed to segregated teaching, and then only for the sub-assistant class.[214] Other courses and classes began to emerge in the nineteenth century, the most important being the establishment of the Agra Medical School in 1883, which offered segregated training to women.[215] Punjab University followed suit in 1885, and Calcutta Medical School admitted women in the same year. The differing strength of purdah tradition across India was reflected in the fact that neither the women at Calcutta nor those at Bombay, where women were admitted in 1887, requested segregated education.[216] A school at Lahore was established in 1886 under the guidance of Elizabeth Beilby, despite her strictures on the educational capabilities of the natives. All these schemes suffered by their reliance on male teaching, while Lahore and Agra trained women only for the sub-assistant class rather than for University degrees, which meant the students were not eligible for the higher grade posts. In addition, the higher caste girls were frightened away both by the prevalence of male tuition, and also by the reputation of the two schools for immoral conduct among the female students.[217] In an attempt to combat these difficulties, a joint mission institution was established at Ludhiana in 1894 under the instigation and supervision of Dr Edith Brown, although this too catered only for the instruction and training of medical assistants. Unfortunately, the missionary character of the Ludhiana school discouraged many non-Christians from attending.[218] Nevertheless, the success of the facility was such that, in 1916, the

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[214]Balfour and Young. *Medical Women in India.* p. 105.
[215]Balfour and Young. *Medical Women in India.* p. 106.
[216]Balfour and Young. *Medical Women in India.* p. 110.
[217]Balfour and Young. *Medical Women in India.* p. 111; Nussbaum, F. *Torrid Zones: Maternity, Sexuality and Empire in Eighteenth-Century English Narratives.* (Baltimore, 1995). p. 172. Balfour and Young put this immorality down to the lack of a woman doctor to guide and influence the students and also to the lack of respect shown to women who ventured into the public domain. Since young men attending medical school would have been conditioned to regard respectable women as those who conformed to purdah limitations, they would have equated the female students with prostitutes. The women were, in the main, of the poorer classes and lower castes. European women were similarly viewed as scandalously wanton.
[218]Barr. *The Memsahibs.* p. 182. Edith Brown was one of the first two medical missionaries of the Baptist Zenana Mission - the other being Dr Ellen Farrer.

Punjab Government transferred the grants it had endowed on the Lahore school to that of Ludhiana.[219] However in 1916, despite these laudable achievements, there still existed no medical school in which female students could pursue study for an MD in segregated classes, under the tutelage of a purely female staff. This deficit had been brought to the attention of Lady Hardinge, another vicereine, whose vigorous campaign for such an establishment culminated in the opening of the Lady Hardinge Medical College in Delhi in 1916. The significance of this College was two-fold. It was not only unique in offering *full* medical training, including clinical experience, but also provided a secular, segregated environment that was designed specifically to appeal to the better class Hindu and Moslem girls.[220]

Thus, it was not until the early years of the twentieth century that effective provision of medical education was available to Indian women. This is not to say that no Indian lady doctors existed and even in 1888 there had been two qualified practitioners, but the women who qualified prior to the establishment of the Hardinge college had to attend mixed classes at one of the Universities or go overseas to obtain their education.[221] Mrs Anandibai Joshi was the first Indian woman to study western medicine. She studied in America, qualifying in 1883, but died four years later of TB. Annie Jaganadhan studied for five years at Madras before proceeding to Edinburgh to train, and qualified in 1892. She also died of TB in 1894. Rukhmabai studied at the LSMW in 1889 and took charge of the Women's Hospital at Surat in 1895.[222] Nevertheless, the figures from 1928 (see following

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[219]Balfour and Young. *Medical Women in India.* p. 113.
[220]Balfour and Young. *Medical Women in India.* pp. 116-7.
[221]The ability to attend mixed classes argues either low caste or conversion to Christianity, whereas crossing the water to Europe would destroy the caste of any Hindu, therefore indicating the same thing.
[222]Balfour and Young. *Medical Women in India.* p. 23; Burton. *Burdens of History.* p. 108. Rukhmabai was decidedly untypical, having gained notoriety and prestige through her legal challenge to her husband's right to marital claim in India. She successfully contested her child-marriage and came to England to study medicine with the encouragement of Dr Edith Pechey.

page) illustrate the difficulties faced by women desiring professional qualification, particularly at the level of MD, prior to the establishment of the Hardinge College. Indeed, the numbers attending all the other medical colleges put together only just exceed the single intake of the Hardinge College at University level. Even in the sub-assistant class, the necessity of segregated teaching is evident in the numbers attending the women only institutions as opposed to the mixed ones (351 and 94 respectively). The Indian doctors who qualified at MBBS and SAS level generally found employment in the Dufferin hospitals and WMS, although some did venture into private practice.[223] The missions also recruited many of the assistants. It is difficult to calculate which of the various organisations deserve the most credit for the establishment of medical training for women. Certainly, the missions played an important role in the early attempts to qualify Indian girls in basic standard medicine, although never really striving to educate them to the level of physicians.[224] However, the Dufferin scheme failed to engineer any degree of medical education for the native women, despite its avowed aims to eventually pass over the management of all Dufferin projects to these future native physicians.[225]

THE WORK OF THE MEDICAL MISSIONS

The medical missions were the pioneers in the field of western medicine for India.[226] Each society had its own governing body in England, but the local missions were under the autonomy of the practitioner on site. The enterprises relied initially on charitable funds and local sponsorship, but it was envisaged that the

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[223]Nearly one-third of the WMS register was made up of Indian practitioners in 1927.
[224]This may well be because of the difficulties described above, of teaching medicine without adequate facilities or staff. The mission hospitals were normally somewhat sparsely populated.
[225]It could, of course, be argued that Lady Dufferin's achievements in carving out a role for herself as vicereine acted as a precedent and impetus to Lady Hardinge in 1911.
[226]Lal. 'The Politics of Gender'. p. 32. Even in 1888, medical missionaries represented two-thirds of all the female doctors in India. .

Figures depicting the availability of Medical Education in India, 1928.

(1) Institutions staffed entirely by women for women

	University Course	Apothecary Certified Practitioner	Sub-Assistant Surgeon
Lady Hardinge College (Delhi)	121	-	-
Punjab Medical School	-	-	97
Women's Medical School (Vellore)	-	-	86
Women's Medical School (Agra)	-	-	73
Lady Willingdon Medical School (Madras)	-	-	95
	121		351

(2) Institutions staffed by men for men and women

Medical College (Madras)	63	3	-
Grant Medical College (Bombay)	50	-	-
Medical College (Calcutta)	18	-	-
King George Medical College (Lucknow)	1	-	-
Hyderabad School (Deccan)	-	5	7
Indore School	-	-	3
Hyderabad School (Sind)	-	-	1
Robertson Medical School (Nagpur)	-	-	7
B J Medical School (Ahmedabad)	-	-	5
B J Medical School (Poona)	-	-	49
Campbell Medical School (Calcutta)	-	-	13
Dacca Medical School	-	-	5
Cuttack Medical School	-	-	4
	132	8	94

medical missionary should be able to attain some financial security through paid practice, in order to support the work of the missionary labour.[227] A web of mission

[227]Balfour and Young. *Medical Women in India.* p. 85. Mission hospitals received some financial grants-in-aid from local municipalities and district boards, and generally made charges for the rent of private rooms, operations and some medicines. Nevertheless, the issue of payment for services

hospitals, staffed by medical women of the highest calibre, spread over India supplying a vast quantity of quality medical care to the native population.[228] The hospitals were generally regarded as being well-built and properly equipped, despite the strict fiscal controls that had to be exercised, and the senior practitioners were attended by one or more western trained nurses. Although the provision of at least one western trained nurse was a vast improvement on the limitations of the Dufferin projects, it was nevertheless representative of a serious shortfall and one which lessened the efficacy of the hospitals, since without qualified helpers, operations were impossible.[229] However, efficient business management by the superintendent allowed Indian girls to be trained as nurses and helpers. These girls were usually mission orphans or Christian converts, and even by 1927, the uptake of nursing training by women of other religious affiliations was still slow and uncertain.[230] Those who did pursue a nursing career benefited not only from the vocational education provided by the mission hospitals, but were also able to achieve qualifications through the system of nursing examinations established by the medical missions. These were an essential prerequisite for the eventual foundation of central registration.[231]

Although the missions did not often collaborate on projects, there was territorial co-operation among the various societies.[232] This enabled the various missionary

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was a difficult subject for the Christian missionary. It was uneconomic and unfair to other medical practitioners for some to give their services free, and, indeed, debased the standing of the profession. However, the central ethic of medical missionary work was to offer care as a representation of Christian faith and charity, and to charge for that service undermined the very spirit of the mission. It was, however, a vital factor in the financial welfare of the medical missions.

[228]Balfour and Young. *Medical Women in India.* pp. 80-84. North India was the first to attract the medical missions, being a stronghold of *purdah nishin*, but Madras was also heavily represented. East India, including Bengal, was not so well colonised by the missionaries, most probably because of the relatively low proportion of strict adherents to purdah.

[229]Balfour and Young. *Medical Women in India.* pp. 75 & 112.

[230]Balfour and Young. *Medical Women in India.* p. 75.

[231]Balfour and Young. *Medical Women in India.* p. 86.

[232]There were occasional collaborative ventures such as the Ludhiana School scheme.

projects to extend across India in an interlocking network, without encroaching on each other's territory or duplicating existing efforts. The sanatoria projects were exceptional in requiring a concerted and united effort among the societies, and they were generally run by a conglomeration of medical missions. While collaboration over infrastructure, territory and the occasional project was successful and harmonious, it was not until 1929 that the medical missions formed an association to supply emotional and professional support to all the doctors working in isolated stations. The Christian Medical Association of India extended membership to both men and women, and also issued an academic journal. Basalla has emphasised the difficulty, experienced by all scientists, of keeping in touch with current advances while stationed abroad and away from the European centres. In addition, it was difficult for women to gain serious recognition in normal medical journals anyway, so by forming societies like the CMA and the AMWI which published their own journals, a community spirit could be fostered which would provide for the interchange and development of new ideas, and the dissemination of topical information from those returning from furlough in Europe and America.[233] Nevertheless, despite these innovations, Balfour and Young regarded the future survival and success of the medical missions as doubtful. They predicted that when the Government acknowledged responsibility for the health of the native population, there would be an influx of investment for the training and supply of staff and for the maintenance and improvement of infrastructure. This financial revolution would bridge the gap then yawning between the quality of mission establishments and government institutions, and eventually render some of the missions redundant since the medical missions would still be reliant on donation and would not be able to modernise and match the progress of the State facilities. However, since the medical missions had evolved away from the practice of direct

[233]Balfour and Young. *Medical Women in India.* p. 87. Basalla, G. 'The Spread of Western Science'. *Science.* Vol. 156, (1967). pp. 611-622. pp. 612-14.

evangelisation, Balfour and Young envisaged the possibility of the missionaries engaging in preventive medicine.[234] It is difficult to assess the degree of success enjoyed by the medical missions, simply because their goals were never fully elucidated and their targets evolved and adapted to the circumstances around them. The abandonment of the evangelisation principle is one such example, and one which invalidates any attempt to appraise them by means of their rates of conversion. Nevertheless, it can be stated with confidence that the medical missions established the first footholds for western medicine in India, and also provided much of the pioneering groundwork for later developments such as the training of midwives and nurses in India, the establishment of purdah hospitals, and the provision of medical relief to the native.

THE REALITY OF PRACTICE.

Objective accounts are rare, and reports written by administrators and observers cannot give a full picture of the lives of the pioneer medical women, but it is essential to glean some indication of the true nature of frontier medicine for any examination of individual experience to be valid. A fundamental feature of medical mission work in India was the relative isolation experienced by the European representative. The financial knife-edge on which the mission stations were precariously balanced made the provision of more than one trained doctor per hospital prohibitively expensive, although sometimes the funds could stretch to a hospital assistant. This inevitably engendered a sense of professional dislocation, but also made certain procedures and operations impossible since the lone doctor

[234]Balfour and Young. *Medical Women in India.* pp. 88-9. The dual rationale of the original medical mission movement had required access to potential converts, but this theoretical combination had died out by 1927 and evangelization had been abandoned in favour of the straightforward practice of medicine, which was intended to be a living witness to the spirit of Christ.

could not realistically do everything herself. An absence of professional colleagues was not the only hardship bequeathed by the marginally funded organisations, since the doctors were frequently expected to develop a lucrative level of private practice in order to alleviate the burden of salary from the budget of the hospital itself.[235] The promotion of private practice was not based entirely on mercenary motives, and the interest of the Zenana organisations was largely prompted by a desire to increase infiltration into the native homes, in order to accord the benefits of western Christian charity to as many women as possible. Nevertheless, although many missionary societies eventually realised that additional senior staff were needed at the medical missions, the attitude towards funding did not change significantly. For example, the Christina Rainy Hospital, opened in 1914, was supported wholly by the fees from private practice and hospital patients, with only one and a half salaries being donated by the mission funds.[236] While this system of finance might not appear particularly flawed at first, it relied on the existence of circumstances favourable to the establishment of private practice. Frances Hoggan did not think medical women could hope to find a niche outside the main towns; while Balfour and Young were not at all sanguine about the prospects of women building up a private practice anywhere in India, but recommended the attempt only be made in the large towns where an appreciation of western scientific method was at least creating a potential clientele.[237] However, even in the major centres it was deemed essential for the women to hold capital sufficient to support them for a minimum of three years, and *all* female medical practitioners were urged to keep a sum aside for

[235]Balfour and Young. *Medical Women in India.* p. 24. Other schemes operated a similar system, although with more sophistication. For example, the Bombay Fund under George Kittredge proposed to hire female doctors from England, pay them an equitable salary for the first two or three years, by which time it was imagined that they would have developed a private practice sufficient to supply their needs, or perhaps have gained an appointment in one of the Government hospitals.
[236]Beds, rooms, operations and sometimes medicines were charged for.
[237]Balfour and Young. *Medical Women in India.* p. 100. Hoggan. 'Medical Work'. II. p. 198.

passage back to England.[238] Sarah Heckford's experience in Calcutta and Bhopal underlined the problems of finding lucrative practice even *in* the big centres. She was only able to collect two fees during her sojourn in Calcutta, and in Bhopal the situation was similarly awkward. She concluded that remuneration for practice among native women would never be high because the men regarded their women as less valuable than the fee itself. This was a view shared by Elizabeth Blackwell, who believed it was not the lack of need or even practice that precluded medical women in India achieving prosperous employment there, but rather the want of adequate remuneration consequent on the lowly status of women and the reluctance of male guardians to spend money on the health of wives and daughters.[239] Elizabeth Garrett-Anderson had been very concerned about the financial prospects and prosperity of the LSMW graduates flocking to India in the late nineteenth century, and had emphasised that they should not take up appointments which did not offer sufficient monetary reward, especially as they were likely to have forfeited any family saving or legacy to pass through their extended education and would, therefore, be relying on their earning potential for travel back home. In the same vein, Sarah Heckford advised all new graduates to make certain that any employment offered was secure before venturing to India, since she had found the field of lucrative or even remunerative work to be extremely narrow. In addition, the insalubrious nature of work in India prompted Garrett-Anderson to recommend that any medical schemes supported by the NIA or the Dufferin fund should offer a real financial incentive to candidates in order to encourage the best applicants.[240]

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[238]Balfour and Young. *Medical Women in India.* p. 100. The pessimistic outlook of Balfour and Young in 1927, when medical colleges, hospitals and dispensaries had become relatively common and the presence and use of western medicine and doctors was fairly widely accepted, suggests that opportunities prior to the early 1900s would have been even more scarce.

[239]Heckford. 'Women Doctors in India'. pp. 720-721; Blackwell. 'Medical Women for India'. p. 13.

[240]Garrett-Anderson. 'Medical Women for India'; Heckford. 'Women Doctors in India'. p. 723. Although this was principally an issue about the practicality of earning a livelihood, the debate about what fees a professional female doctor should command also exercised Garrett-Anderson and others. During her time in India, Mrs Heckford had wrestled with the conflict between insisting on

Nevertheless, the successful combination of public and private practice was evidenced by Edith Pechey's career in India, under the auspices of the Medical Women for India Fund in Bombay.[241] She received £400 per year for the first five years, her salary being paid initially by the Fund and later by the Government, but private practice remained a central part of her work. Indeed, when she resigned her post upon her marriage in 1894, she continued in private practice until 1908, although it is impossible to judge the financial viability of this practice given that her marriage negated the need for her to generate a livelihood.[242] Nevertheless, Pechey had identified a potential hazard attached to home attendance, in that it could escalate to such proportions that the woman doctor in charge of the hospital would be constantly called away to treat middle class women at home, while generating little revenue for the support of either herself or the hospital. Therefore, whilst she accepted the necessity for private visits, she refused to charge lower fees than the market rate operated by her male counterparts in the city. This attitude served a double purpose, maintaining equal status for women doctors and simultaneously ensuring that the women doctors were not exploited by the clients, the hospitals or other doctors. These same problems encouraged even mission doctors to preserve professional rates of payment, according gratuity only in the poorest cases.[243] Whatever the rates charged, even conservative estimates reckoned that an English lady doctor depending wholly on private practice, would need to earn at least £360 per year, and some thought that even £500 would be insufficient to support a respectable lifestyle.[244] Obviously no practice was likely to flourish

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professional payment or bowing to humanitarian need and offering medical service *gratis*, but had resolved on no solution.

[241]Hoggan. 'Medical Work'. II. p. 194. The Fund was established by George Kittredge and Mr Pestonjee Cama in 1886.

[242]Balfour and Young. *Medical Women in India.* p. 29.

[243]Balfour and Young. *Medical Women in India.* p. 85.

[244]Blackwell. 'Medical Women for India'. pp. 18 & 27. Surgeon-Major Temple Wright was of the opinion that £500 was insufficient, although his intention was to discourage women doctors from coming to India. Syed Ameer Ali thought that £360 would be ample, although Sarah Heckford thought he was underestimating the cost of maintaining an appropriate European lifestyle in India.

where there existed an antipathy to western practice *per se*, but this was relatively rare. Initial suspicion made the natives wary, but they were generally attracted to the hospitals by favourable reports of the skill and success of the practitioners. Nevertheless, the 'courting' phase made it essential for the doctor to receive a reasonable and secured salary.

If financial security was a challenge, the conditions of employment were a trial. In the early years of medical missionary work, the woman doctor was almost always the sole practitioner, working out of a small house or hut with very little company or help. Assistants were still a rare and priceless blessing and had to be treated as such, whilst Indian nurses were merely a daydream. What provision there was for nursing help had to be gleaned from the earnings of the doctor, but the difficulty was not only financial. Suitable British nurses had to be tempted and cajoled into accepting a role which would embrace both the training of native girls and the whole weight of clinical attendance. Thus, the challenge of recruitment was a common and recurring theme in most of the early stations and hospitals, and resulted in a variety of improvisations. Elizabeth Beilby's dispensary was staffed by her and her sister, who was actually a trained nurse, while Dr Jesse Carleton relied on an ayah to help her start a dispensary in 1887.[245] Edith Brown found the situation so unsatisfactory that she embarked on the Ludhiana training scheme. Later, it became relatively common for the bigger urban hospitals to have training schools attached, for example, the Madras Women's Hospital established in 1899.[246] In many cases, however, the doctor remained her own anaesthetist, clinician, nurse, compounder and companion, and yet was still expected to raise sufficient revenue to

[245]Balfour and Young. *Medical Women in India.* pp. 20 & 23. Unfortunately, Elizabeth Beilby's sister died after a few months, and Elizabeth had then to struggle on alone. Jesse Carleton, of the American Presbyterian Mission, continued with her ayah for several years.
[246]Barr. *The Memsahibs.* p. 182; Balfour and Young. *Medical Women in India.* pp. 112 & 31.

both build a hospital and pay for extra personnel to staff it.[247] Whilst conditions undoubtedly improved over the period 1880-1930, not least because of Government interest and financial aid, Balfour and Young are perhaps a little too insouciant about conditions by the 1930s. They describe every practitioner as 'arriving to take charge of an organised hospital with full beds, trained staff, competent assistants and usually excellent operating rooms, instruments and medicines',[248] and while this was evidently the case in many of the Government sponsored hospitals located in the major centres, it is unlikely to have extended to the smaller mission stations.[249]

The practical reality of medical work in India was far from uniform, however, and this serves to render national studies, whether contemporary or historical, inaccurate. The nature of conditions varied from region to region, depending on prevailing customs and the novelty of western care. For example, the outreach and frontier posts like Kashmir offered a primitive reality. Basic common hygiene, improvisational medicine and an ability to communicate were more valuable than scientific finesse, since many of the patients were from the mountain tribes and unaccustomed to the presence of westerners or the sophisticated intricacies of European medicine.[250] Economic status also made a difference to medical provision, although the most apparent diversity existed between hospitals in major urban centres and those in the localities. The smaller towns of the Central Provinces boasted universities, colleges and women's hospitals, but also an array of slums and bazaars in which ignorance and poverty produced a milieu of complaints ranging

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[247]Balfour and Young. *Medical Women in India.* pp. 15-16.
[248]Balfour and Young. *Medical Women in India.* p. 15.
[249]Balfour and Young actually argue later that the mission hospitals were unlikely to survive competition from Government institutions, but then state that *even in 1927*, there was actually a discrepancy between the better quality of care and facility offered by the missions compared with those of the state. If the mission hospitals were sub-standard and the existing Government provision worse, surely the description quoted was inaccurate or perhaps an exaggerated optimistic ebullience, representing an exceptional reality that was expected to become commonplace.
[250]Balfour and Young. *Medical Women in India.* p. 9.

from anaemia and malaria to obstructed pregnancy and improper childcare. The hospitals provided a lifeline and were also a source of wonder, dispensing miracle drugs and revolutionary information.[251] The picture was very different in the large towns of the South East and West provinces where European society had concentrated, and in which western medicine had become prevalent, entrenched and accepted. These hospitals not only contained adequate and even sophisticated facilities, but also had specialist staff and honorary physicians, while practice in general replicated most closely that of a European city. It was in these centres that private practice was most likely to prove successful.[252]

The juxtaposition of experience between North and South India was largely associated with the variability of purdah. The strict purdah regime in the former contrasted with the more liberal attitude in the South, and the need for female doctors reflected the extent and depth of purdah practice, and the level of willingness to consult male practitioners. Even in the big cities of the South East, the women's hospitals were able to survive because there were sufficient women who would prefer to be treated by a member of their own sex.[253] However, in the towns of central India and in the North, the women doctors were made to feel indispensable, representing the *sole* source of medical aid available to the Zenana and the only *respectable* source to women less constrained by purdah limitations.[254] Still more were the outreach stations vital. They were a medical oasis in the desert of disease for the women of the smaller towns and villages.[255]

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[251]Balfour and Young. *Medical Women in India.* p. 10. Basic information on hygiene and diet could afford huge improvements in health and quality of life, as could the acquisition of proper midwifery in place of the ministrations of an ill-trained dhai.

[252]Balfour and Young. *Medical Women in India.* p. 11.

[253]This fact actually gives proof to the separate spheres argument, which had been used frequently in the campaign to justify medical education for women in England.

[254]Balfour and Young. *Medical Women in India.* pp. 9-12.

[255]Balfour and Young. *Medical Women in India.* p. 101. There was little sexual prejudice among the natives towards the lady doctor and men too would request medical assistance from a proven

Native women did use the hospitals provided by western benevolence and belated Government compunction, but they required coaxing and convincing of the validity of the wares on offer and the responsibility for this rested with the doctor. The clinic, dispensary or hospital was therefore reliant for its survival on the ability and quality of the doctor assigned. In the early years, the very novelty of the female physicians made them suspect and the native clientele gave them a wide berth until they could prove their worth. This was somewhat difficult, since distrust made the patient reluctant to seek help until the case was desperate and much meddling had already been done. Frances Hoggan alluded to the continuing attachment and preference among the natives for their own practitioners and emphasised that, only when the case had gone beyond the power of the hakim, was the European doctor tried with the result that the condition of the patient was far more severe and testing than would normally have been the case.[256] Even once gained, the confidence of the native was not particularly durable, and as Balfour and Young described 'a death emptied wards, an unsuccessful operation would undo years of good work'.[257] If confidence was fickle, patience was evanescent, and those natives who did succumb to the blandishments of western medicine were impatient for swift results, seeing no point in perseverance if the treatment did not afford instant evidence of success.[258] The coltish clientele added to the already taxing conditions in which the European doctor struggled with the latter stages of mismanaged pregnancy, injuries and ailments resulting from the products of ignorance and neglect, and the

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female physician, sometimes in preference to a male doctor. It was obviously impossible for men to be treated in the women's hospital, but women doctors would often make visits to the home.

[256]Hoggan. 'Medical Work'. II. p. 195.

[257]Balfour and Young. *Medical Women in India.* p. 16.

[258]Harrison. *Public Health in British India.* p. 92; Sorabji, C. *India Calling.* (London, 1934). p. 232. Cornelia Sorabji provides an example of this behaviour in her memoirs, describing how one of her Zenana pupils became ill with enteric fever. 'Being our wards, they knew what was advisable and sent for the Civil Surgeon, but because she did not recover in a day, they sent to Calcutta for a Homeopathist to whom they paid Rs 5 000. When I arrived, I found that this doctor, likewise unable to cure enteric in a day, had been replaced, this time by a Hindu priest'.

manifestations of tropical disease. Indeed, some of the medical realities of practice were as far removed from the experience of the trained and qualified lady doctor, as were the actualities of purdah and the burning climate of the Indian plains. Elizabeth Garrett-Anderson regarded medical work in India to be much harder than practice in England because of the professional isolation, intense climate, unusual habits of life of the natives, and the difficulty of the language.[259] This opinion was echoed by Elizabeth Blackwell, who regarded the higher level of responsibility and the enduring isolation as formidable obstacles to successful practice. She recommended that only women doctors with considerable experience should attempt to take up the work since 'no mere smattering of theoretical or practical knowledge would enable these ladies to stand alone', and specifically warned graduates straight out of medical college against attempting service in India until they had earned 'the teaching of experience'.[260]

Once the hospital or dispensary had been established and the local population had been beguiled into attending, the woman doctor was quickly faced with a large and bewildering variety of medical problems. By far the most common, however, were those related to pregnancy and there were copious examples of antenatal, natal and post-natal trauma. Women doctors were presumed and *expected* to be specialists in the field of obstetrics and gynaecology, and most of the initial house calls, requests for consultation, and emergencies were of this type.[261] Abnormal birth was a relatively frequent occurrence in India, due in part to the poor general health and

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[259]Garrett-Anderson. 'Medical Women for India'.
[260]Blackwell. 'Medical Women for India'. p. 25.
[261]Balfour and Young. *Medical Women In India.* p. 91; Hoggan. 'Medical Work'. II. p. 196. In Britain, women were usually guided or side-lined into obstetric practice, paediatrics and community health programmes because these were regarded as suitable spheres for female healing. In India, women were simply supposed to have expert knowledge of obstetrics and gynaecology by virtue of the fact that they were establishing hospitals and health care for women. Many, however, would have had no more knowledge of the field than any other doctor who had recently qualified, and Frances Hoggan urged women intending service in India to gain specialist training in obstetrics, midwifery and diseases of women.

inadequate diet of the mother and, in the case of the *purdah nishin*, to the constrictions imposed during pregnancy.[262] Pre-delivery disease also featured prominently, in particular embracing the deficiency ailments of anaemia, osteomalacia and puerperal beri-beri, but also including eclampsia and obstruction.[263] The actual delivery evoked a whole host of new dangers for the European woman doctor, who was rarely privileged to attend at a normal easy confinement. Reliance, in most cases, was still on the local dhai, who was competent to assist in cases of spontaneous and uncomplicated labour and whose services were initially preferred. Therefore, cases to which the lady doctor was summoned were usually those where malpresentation and complications had caused severe distress, or where the ministrations of a frantic dhai had led to sepsis.[264] Indeed, the results of poor midwifery were the focal point for much of the early practice of female doctors. Those who had remained shy of the unknown westerner were driven, through desperation, to seek consultation. A subsequently favourable

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[262]Balfour and Young. *Medical Women in India.* Appendix I. Statistics for maternal mortality were difficult to obtain and impossible to verify, but reasonably accurate figures were acquired by the Public Health Commission in India in 1926. These figures, derived from a selection of sources, showed a varied rate of 4.7 to 18 deaths per 1 000 births. The midwives corporations reports did not include the returns relating to hospital admission, although some of the rates had been partially adjusted to compensate for this omission. However, the Health Officers reports for Bombay, Calcutta and Bengal were 16.7, 18.0 and 12.2 deaths per 1 000 births respectively. The British rate stood at 3.86 in 1925.

[263]Balfour and Young. *Medical Women in India.* p. 92; Kiple, K. (ed.) *The Cambridge World History of Human Disease.* (Cambridge, 1993). pp. 572, 606-7, 704 & 979. Iron deficiency anaemia was, and is, a common complaint in pregnancy even in the West. However, in the less temperate, tropical areas, the needs of pregnant and lactating women are twice those of women elsewhere. In addition, the maize based diet is low in iron, causing a degree of iron deficiency even before the increased demands imposed by pregnancy. Osteomalacia is a vitamin D deficiency disorder, like rickets, which affects the bones. Although rickets is itself rare in sunny climates, osteomalacia is more common due, in many cases, to the veiling of purdah which cuts off direct sunlight. Dietary problems also exacerbate the condition, particularly the reliance on chapatti flour which causes malabsorption of calcium from the intestine. Beri-beri is a wasting disease, resultant from a lack of thiamine. Pregnant women are particularly susceptible, unless their nutrition is already adequate or enhanced. Eclampsia is a disorder solely associated with pregnancy, in which convulsions, swelling and toxaemia occur and which can lead to a multitude of dangerous physical conditions from renal failure to cerebral haemorrhage. It occurs most commonly in those with a poor diet and low socio-economic status, and who are on the age extremes of childbearing. These factors increased the risk of eclampsia for the low status Indian girls, who were often married by age 9 and pregnant soon afterwards. *Census of India*; (1921). Vol. I, Part I. p. 157.

[264]Balfour and Young. *Medical Women in India.* p. 92.

outcome could promote trust and confidence in the talents of the practitioner. In some cases of complicated labour or obstruction however, the dhai was successful in wresting the foetus from the mother and this in itself led to a plethora of post-partum complications, such as ruptured perineum, visito-vaginal fistula and pelvic cellulitis.[265] The satisfactory resolution of ante-natal and parturition trauma enabled the doctor to establish her reputation as a reliable and skilled attendant, and this facilitated the growth and expansion of her embryonic practice. It was traditionally at this stage that she began to see more gynaecologically based traumas. Cystic and fibroid tumours were not unusual, and late uterine cancer was tragically common.[266] However, not all the presenting complaints were of life threatening gravity or required heroic treatment, and the doctors found themselves frequently called to consult on cases of sterility. Offspring and heirs were of great cultural importance in avowing the virility of the male and ensuring the continuance of lineage and caste. Land acquisition and inheritance also relied on the production of male heirs, so sterility in a woman or couple was not only a physical disappointment, but a serious social and economic disaster. Equally, just as in England prior to the establishment of state welfare systems, family was the insurance of old age and the means of support for those no longer able to work.[267]

Notwithstanding the profusion of gynaecological and obstetric cases, women physicians, whether in big urban hospitals or small mission outposts, saw a multifarious array of medical problems and were also required to be deft and skilful surgeons. Surgery offered the possibility of achieving almost instant and miraculous results and, unlike physic, was little practised by indigenous medical

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[265]Balfour and Young. *Medical Women in India.* p. 92.
[266]Balfour and Young. *Medical Women in India.* p. 92.
[267]Balfour and Young. *Medical Women in India.* p. 92.

men.[268] Thus, if the European doctor could persuade the native to undergo surgical treatment, they could ably demonstrate the superiority of western practice in at least one sphere. This was no easy matter however, since the natives were often afraid of the most basic and harmless western tools, such as stethoscopes and watches, let alone the prospect of chloroform and the scalpel.[269] Tropical medicine had developed as a distinct science by the end of the nineteenth century, and Schools of Tropical Medicine and research were found across Europe and America by 1910.[270] London and Liverpool opened institutions for the study of tropical disease at postgraduate and research level in 1900, and the Tropical Disease Research Fund was established by the Colonial Office in 1908. Thus, by the early twentieth century such institutions were providing a vital extra component in the diagnostic armoury and it had become more common for doctors to attain some degree of knowledge about tropical disease, either by studying at the London or Liverpool Schools of Tropical Medicine or attending the post-graduate course in Calcutta.[271] The tropics displayed a variety of unique infections and ailments, as well as some more familiar manifestations of bodily disorder. Diarrhoeal diseases proliferated, some caused by nutritional deprivation[272] and poor hygiene, others by pathogenic

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[268]Hoggan. 'Medical Work'. II. p. 196. Surgery was left in the hands of the barber-surgeons and regarded as a lesser craft, much in the way that it had been in England at the beginning of the nineteenth century.

[269]Hoggan. 'Medical Work'. II. p. 196.

[270]Power, H. 'The Calcutta School of Tropical Medicine: Institutionalizing Medical Research in the Periphery'. *Medical History*. Vol. 40, (1996). pp. 197-214. pp. 198-9. The London and Liverpool Schools of Tropical Medicine opened in 1900, as did the Institüt für Schiffs und Tropenkrankheiten in Hamburg. The American Public Health Laboratory opened in Manila in 1902; the Belgian State School for Tropical Medicine in 1906; and a course of lectures in tropical disease were given in the Paris Faculty of medicine. There were also colonial establishments in Kuala Lumpur, Khartoum and Cairo.

[271]Power. 'The Calcutta School of Tropical Medicine'. p. 198. Courses were available at the Calcutta Medical School, but the Calcutta School of Tropical Medicine itself did not open until 1921.

[272] Nightingale, F. 'The People of India'. *The Nineteenth Century*, Vol. 4, (August 1878). pp. 193-221. pp. 194-199. Florence Nightingale described the chronic semi-starvation of the bulk of India's population and the inadequacies of diet. Famine stalked the land so relentlessly that the people were unable to recover a decent standard of living in-between visitations and became dependent on money lenders. Rice and vegetable curry formed the staple diet of the agricultural poor, since milk and dhal (although the cheapest forms of protein available) were an unaffordable luxury. The

organisms. Tuberculosis,[273] malaria[274] and hepatitis all took their toll, as did kala azar,[275] influenza and bubonic plague.[276] Smallpox became the target of the western vaccination crusade, albeit one which benefited from little governmental support. Objections to the vaccination programme stemmed from religious and cultural beliefs which the government was unable or unwilling to circumvent. Arm to arm vaccination was opposed by the Hindus on account of the ritual pollution this would entail, for example, if a low-caste passed to a Brahmin, whilst the production of animal lymph was equally unacceptable since calf lymph involved the desecration of the Hindu sacred animal. Nevertheless, this problem was eventually overcome by the substitution of buffalo lymph, and the vaccination programme finally gained converts and impetus in the late nineteenth century. Therefore, despite animosity over the enforcement of medical controls and the relative timidity of the Government measures, its ravages in India were eventually significantly lessened

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sepoys were not well fed by British standards, being allotted flour, butter, peas, vegetables and an occasional pint of milk, but this was an unattainable minimum for the bulk of the population. The salt tax (7l a ton) made curing fish prohibitively expensive so it was often done imperfectly, thus generating more disease. This debased level of nutrition made the average Indian much more likely to succumb to endemic and epidemic infections, and to suffer from nutritional deficiency diseases. Cholera, typhoid, dysentery, both amoebic and bacilliary, and chronic diarrhoea all became more prevalent and severe during the frequent famines.

[273]Balfour and Young. *Medical Women in India.* p. 86; Kiple. *World History.* p. 1061. Tuberculosis was a major killer in India as it was in Europe, and the medical missions devoted copious amounts of time and resources to combating it, providing what medical relief was available and establishing sanatoria. Tuberculosis is recognised today as being a disease of poverty, with immunity rising coincident with income. Poor nutrition, in particular a lack of protein, is heavily implicated in the susceptibility of individuals to the disease, and the maize based diet of India's poor would have conferred little nutritional immunity to tuberculosis.

[274]Harrison. *Public Health in India.* p. 189. Malaria, both vivax and falciparum, had been endemic in India since before the European conquest. However, the advent of colonial agricultural reforms, such as irrigation, increased the area of land hospitable to the mosquito and thereby exposed more people to the prevalence of malaria.

[275]Desowitz, R. *The Malaria Capers.* (New York, 1991). pp. 31-62. Kala azar was a disease specifically associated with the British. Transmission via a parasitic insect (sandfly) was similar to that of malaria and the disease itself manifested many of the same symptoms, although treatment by quinine was ineffective and mortality was much higher, equating more closely to that of bubonic plague. The disease had prevailed in India prior to the British invasion, but as with cholera, conquest and 'progress' in the form of lines of communication had opened the entire sub-continent to the disease. It was even named 'sakari bemari', or 'the government disease'.

[276]Plague epidemics were a recurring menace in the colonial period of British India, and were a source of debate and anxiety among governments, health officials and field doctors alike.

although not eradicated.[277] The failure to make vaccination universal and compulsory, with the imposition of mandatory fines for non-compliance, was only partly to blame for the continued survival of smallpox in India.[278] The inefficiency and inadequacy of the vaccination agencies was also a limiting factor, since there were too few to serve the vast territory and certainly too few to reach the villages and settlements where the new-born provided a continually refreshed reservoir for the infection. In any case, registration of births had only been introduced in the 1870s and was so unreliable that the numbers requiring vaccination could not be ascertained by the vaccination authority. The need to conduct plague vaccination during epidemics merely increased the strain on a system that was at best erratic and unreliable.[279] Although smallpox vaccination became more acceptable and the numbers protected increased from 6.2 to 8 million between 1891 and 1901, there was no corresponding decline in smallpox mortality which rose from 101 721 (1891-2) to 115 445 (1901-2), and only began to fall after 1909. Nevertheless, vaccination continued to be culturally unacceptable to many, even in 1914, and in practice it was impossible to achieve universal vaccination with the resources available. David Arnold ascribes the tentative nature of government protocols to the unwillingness of the British Administration to commit to the necessary financial and administrative burden required to effect a comprehensive system of vaccination,

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[277]Harrison. *Public Health in India.* pp. 82-7; Arnold, D. 'Smallpox and Colonial Medicine in Nineteenth Century India'. Arnold (ed.) *Imperial Medicine and Indigenous Societies.* (Manchester, 1988). pp. 45-65. p. 48. Reasonable levels of success were not achieved until 1909. It should also be stated that some of the hostility among the native population sprang from a fear of offending the mother goddess of smallpox, Sitala/Mariamman, and cremation in smallpox cases was often forbidden for fear of scorching the deity.

[278]Harrison. *Public Health in India.* pp. 82-4. Although compulsory legislation was introduced in Bombay in 1887, Karachi 1879 and in a general enabling act of 1880, local administrations were unwilling to apply it, with the result that by 1906 only 7% of British India's population was under the jurisdiction of the act. In addition, the disease was never made notifiable, largely because of fears of unrest and the impossibility of enforcing notification and isolation even in the urbanised areas.

[279]Harrison. *Public Health in India.* pp. 86-7; Arnold. 'Smallpox and Colonial Medicine'. p. 60.

and also to the genuine fear of unrest felt by the British who had never forgotten the horror of 1857.[280]

Of all the exotic and infectious diseases proliferating in India, it was leprosy that formed the focal point of missionary medicine representing, as it did, the opportunity to deploy medical care to those whose history was intricately entwined in the life of Christ and the charitable ethic of the bible.[281] The traditional native response to the diseased had been persecution and ostracism, whilst the attitude of the Government of India remained one of indifference and unconcern.[282] The first western investigation into leprosy had been instigated in 1862, prompted by a supposed epidemic in the West Indies. The commission appointed adjudged the disease to be hereditary and, in the course of research, revealed the extreme prevalence of the disease in India.[283] Despite these findings, debate over the transmission of leprosy continued to flourish, fuelled by the fashionable germ theory of disease and the new science of bacteriology which was daily exposing new causative organisms. Hence, when *Mycobacterium leprae* was isolated by Armauer Hansen in 1873, the discovery served merely to increase speculation about the possibilities of infectious transmission.[284] Many continued to focus on the

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[280]Harrison. *Public Health in India.* pp. 86-7; Arnold. 'Smallpox and Colonial Medicine'. p. 62.
[281]Kakar, S. 'Leprosy in British India, 1860-1940'. *Medical History.* Vol. 40, (1996). pp. 215-230. p. 218. Wellesley Bailey established the Mission to Lepers in India in 1874, and his supporters continually referred to the healing work of Christ among the abominated lepers.
[282]Kakar. 'Leprosy' p. 216; Upayokin, P. 'Treatment Choice, Disease Outcome and Stigma: An Investigation of Leprosy Patients and Illness Behaviour in Thailand'. (Unpublished PhD thesis, Case Western Reserve University, 1991). p. 198. The attitude of the Government perhaps stemmed from the fact that leprosy was neither infectious nor readily transmissible and would therefore have little effect on the European community. There was also no cure or even understanding of the causation of the disease for most of the colonial period, which would have limited the potential efficacy and economy of any state supported schemes. The native response had centred on segregation, with lepers being forced out of their homes to live in isolation beyond the village boundaries. This allowed the family and relatives to maintain contact and offer support, but the affliction was also viewed as a source of shame and contamination, so the leper often went into voluntary self-exile and left the village to become a beggar. Hence, the proliferation of vagrant lepers in the bigger cities.
[283]Kakar. 'Leprosy'. p. 217. The report was by the Royal College of Physicians.
[284]Kakar. 'Leprosy'. p. 217; Kiple. *History of Human Disease.* p. 834. Hansen was unable to prove the means of transmission, and his discovery, therefore, added another layer to the debate.

traditional theories of heredity, diet and climate and throughout the nineteenth century in India, it was widely believed that leprosy was caused by excessive consumption of salt or fish.[285] A second investigation was undertaken in 1889 by the Leprosy Commission for India and this time leprosy was found to be contagious, although not to a degree sufficient to justify segregation and confinement.[286] These findings came under fierce attack, with a majority of reviewers urgent in their advice to the Government of India not to heed the recommendations. The Government was only too pleased to concur with the Commission's findings, however, which gave them legitimate medical reasons to refrain from expenditure and coercion.[287] Nevertheless, ultimately it was unable to withstand internal pressure for some degree of reform, since the urban elite was not best pleased by the continued congregation of vagrant lepers in the city. Hence, in 1898 an act was passed which provided for the forcible incarceration of all vagrant lepers exhibiting signs of ulceration, but which was applicable only in those areas where the disease was notifiable. The Government thereby facilitated segregation without enforcement, leaving the management and administration to the local governments and providing finance in the form of grants-in-aid. The Leprosy Act was dictated not by medical necessity or recommendation, but by political expediency and was done to appease the city elites and dispose of an unsightly nuisance: 'the loathsomeness of the disease justified certain measures.'[288] Leper asylums were generally run by the missionary societies, which were responsible for

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[285]Harrison. *Public Health in British India.* p.42; Kiple. *World History of Human Disease.* pp. 834-839. Given the evaluation of dietary habits and access to salt and meats by Florence Nightingale, there would surely have been a decline in the incidence of leprosy during the colonial period if salt and fish had been implicated. There is no evidence to support this theory and, in fact, modern science has shown that leprosy is spread by sustained physical contact which allows *M. leprae* to infiltrate the skin. It is relatively difficult to contract, but because of the social stigma attached to the disease many victims concealed their early symptoms and thereby infected others.
[286]Kakar. 'Leprosy'. pp. 218- 219. The Leprosy Commission was established by the National Leprosy Fund, a charitable association in England under the patronage of the Prince of Wales.
[287]Kakar. 'Leprosy'. p. 220.
[288]Kakar. 'Leprosy'. p. 221.

the care and containment of some 5 000 patients in 73 asylums by 1911; 81 in 1916 and 94 by 1921.[289] At first, these asylums were little more than sanctuaries offering shelter and nourishment for both body and spirit, but by the late 1880s they had been transformed into primary research institutions for the development of pioneering treatment. The concentration of leprosy research in the hands of the missions was the result of the ostracism and prejudice against lepers. Hospitals varied in their willingness to treat them with a few accommodating all, others offering treatment only for secondary or simultaneous affliction, and some barring them altogether. This gave the missionary asylums and hospitals a veritable monopoly on care and the synthesis of effective treatment.[290] For the leper, however, the asylums held several unpalatable customs, including the loss of religious freedom, segregation of the sexes and seclusion from the outside world, and these restrictions led to an initial reluctance to seek admittance and some attempts to escape once incarcerated. Although the missions vehemently denied that any means were used to coerce conversion, the asylum culture was infused with Christianity and it was suggested that conversion became irresistible. Lepers were not permitted to leave the asylums, either to visit family, beg or go on pilgrimage to seek religious healing, and the separation of the sexes was made mandatory in all Government of India sponsored institutions from 1888. Not that the missionary societies had opposed this measure, it was already widespread and expected by contributors to the Mission for Lepers Fund. For the inmates, however, it merely added to the cruelty of isolation and militated against the traditional practice whereby lepers were sometimes accompanied into seclusion by a healthy wife. Lepers would sometimes seek to escape to asylums where the separation principle was not enforced, such as Naini in Allahabad which was bombarded by admonitory

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289Kakar. 'Leprosy' p. 221. 73 of the 94 were in areas under British rule.
290Kakar. 'Leprosy'. p. 222.

correspondence from other missions who were losing inmates to the institution.[291] Preventive measures were of considerable importance in the western treatment of leprosy, but if palliative care was sometimes lackadaisical, there was a definite commitment to discovering a cure.[292] Indigenous practices were examined for efficacy, and the use of chaulmoogra oil was widely recommended despite the considerable expense.[293] Change came in the 1920s when understanding and a potential treatment converged to discredit the asylum culture. Injection with the constituents of the chaulmoogra oil was found to be effective in curing those in the early stages of leprosy, who were also incidentally the most infectious.[294] Reaction in the asylums was mixed and ambiguous since the discoveries brought into question the veracity of some of the practices employed. However, dispute centred chiefly on the future role of the missionary institutions questioning whether they should continue to offer sanctuary, albeit voluntary and mixed, to those already maimed and mutilated, or whether they should be responsible solely for the distribution of effective treatment to those recently infected. The decision of the Government to continue the grants-in-aid only to those who could be cured put added pressure on the missions to change their focus.[295] Dissemination of the new technique was slow but steady, and outpatient treatment became commonplace with missions converting from asylum administration to the establishment of clinics and dispensaries solely for leprosy.[296] For the missions, then, leprosy had offered a raison d'etre beyond all other and the coming of effective medical aid highlighted

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[291]Kakar. 'Leprosy'. p. 224-25.

[292]Kakar notes the lack of attention to bandaging and care of ulcers, although he also refers to corrective surgery for eye complications that was available in a few hospitals, though not in the asylums themselves.

[293] Kakar. 'Leprosy'. p. 225.

[294] Kakar. 'Leprosy'. p. 226. The bacilli were more concentrated in newly infected skin, but by the time ulceration had occurred much of the virulence had dissipated.

[295] Kakar. 'Leprosy'. p. 226. 280 incurable lepers were evicted from a Madras leper settlement in 1939.

[296] Kakar. 'Leprosy'. p. 227. Confinement and segregation did continue throughout this period of change, even in places where outpatient facilities were also available.

the reluctance of the medical missions to wholly desist from spiritual activity. The exclusion of lepers from society might suggest that non-specialised missions did not encounter it, although it is likely that most missionary doctors would have seen or encountered leprosy at some stage in their career, especially after the beginning of the new treatments.

Missionary doctors could expect to meet with all these diseases and ailments, varying in number and severity, as well as with more familiar scourges and less serious afflictions. Diseases of the skin and eyes were especially prevalent in India, and Frances Hoggan had counselled prospective medical missionaries as early as 1885 to gain some expertise in ophthalmology.[297] Tropical medicine, if not taught at post-graduate level, was learned in the field and the facilities available had to be adapted by the mission doctor to the needs presented. The lot of the medical missionary was a hard one, requiring spirit and spirituality as well as medical knowledge, surgical finesse and pharmacopoeial familiarity and embracing an ability and willingness to learn the language and coax the patients through example, patience and trust. The rewards were not financial bounty, but personal satisfaction, and the dangers and discomforts of service were manifest and manifold. Yet many embraced the calling and spent the best years of their lives devoted to caring for and tending the lost sisters of Colonial India.[298]

[297]Hoggan. 'Medical Work'. II. p. 197.
[298]Hoggan. 'Medical Work'. II. p. 198. For example, the effects of the climate could be severe and many pioneer medical women succumbed to the ravages of tropical and other diseases. Frances Hoggan writing in 1885, warned those intending service in India of the myriad dangers and difficulties facing them, from ostracism to early death, but still urged them to take up the cause.

Chapter Three

TROPICAL MEDICINE, INDIGENOUS HEALING AND THE DISEASE ECOLOGY OF INDIA.

Western medical science in the late nineteenth century represented both a weapon against the Indian disease environment and a demonstration of the superiority of European civilisation. During the nineteenth and early twentieth centuries, advances in diagnostic aids and techniques,[1] an increase in the knowledge of anatomy and pathogenicity, and the development of specialised sciences[2] liberated western medicine from the fetters of limitation which had held it in relative stasis since the evolution of Hippocratic physic. Listerine asepsis and the advent of anaesthesia[3] made surgery more successful and, therefore, more respectable. Surgical procedures could cure at a stroke and with the investigation of the abdominal, cranial and thoracic cavities made possible, operative therapy became a central feature of clinical medicine. Prior to the advent of anaesthesia, operations

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[1]Bynum, W. F. *Science and the Practice of Medicine in the Nineteenth Century.* (Cambridge, 1994). pp. 35-6, 37-9, 173-5. Auenbrugger developed the technique of percussion in the eighteenth century, but it was not widely used until the middle of the nineteenth. In contrast, Laennac's invention of the stethoscope in 1816 was adopted quickly, being a common sight by the 1830s, and X-ray technology, discovered in 1895, provided a further revolutionary clinical diagnostic tool by the end of the century.

[2]Pathology, physiology and chemistry all developed further levels of sophistication and application, and the emerging specialties of bacteriology, parasitology, tropical medicine and microscopy furthered the understanding of disease mechanism and transmission, thereby increasing diagnostic confidence.

[3]Bynum. *Science and the Practice of Medicine.* pp. 121-2, 132 & 135. Anaesthesia with ether and, slightly later, chloroform was first demonstrated in 1846 and 1847. The uptake of the technique has perhaps been exaggerated historically because of the rapid spread of knowledge, but it was certainly a widely used technique by the end of the century. Asepsis was an adaptive invention insofar as knowledge about anti-septics was not new, but Lister's carbolic spray and use of aseptic dressings took antiseptic precaution to new levels of sophistication. Lister's technique was first published in 1867 in the Lancet and found a degree of early acceptance, although many regarded it as unnecessarily obsessive and physically unpleasant to the surgeon. Listerine asepsis, however, developed alongside new hygienic practices; and hospital cleanliness, disinfectant and antiseptic procedures were commonplace in surgery by the end of the century, their use stimulated by the acceptance of the germ theory of disease transmission.

had been characterised by speed and desperation; the hallmark of a good surgeon being deft velocity rather than skilful delicacy. An inability to control or compensate for excessive blood loss and the shock of operative trauma to the patient rendered all other virtues redundant, hence surgery was a desperate last-resort rather than a respected specialty. Anaesthesia opened the way to more extensive and extended surgery, allowing the doctor to explore and, in some cases, correct or remove abnormalities. Aseptic techniques elevated post-operative survival rates, and made surgery a very real boon to the patient. Operations were developed throughout the period, some of which were unnecessary or even mischievous,[4] but many of which achieved seemingly miraculous and swift cures. Caesarean section became therapeutically viable by the end of the century[5] and although it is difficult to quantify the exact contribution of the technique to declining maternal mortality, it undoubtedly saved the lives of many women and children who would otherwise have perished.[6] Local anaesthesia made operations on the eye feasible and were first done under cocaine, although later Novocain, a less hazardous synthesised product, was developed.[7]

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[4]Bynum. *Science and the Practice of Medicine.* pp. 204-5, 222. Some historians have regarded the fashion for ovariotomy as both unnecessary (used as it was to cure a range of ailments from menstrual difficulty to hysteria and epilepsy) and prompted by a desire to prove both the finesse of the surgeon and his craft, and to secure the specialty of gynaecology for the male practitioner.

[5] Loudon, I. *Death in Childbirth: An International Study of Maternal Care and Maternal Mortality 1800-1950.* (Oxford, 1992). p. 135. Initially, caesarean section had been used only in the most dire emergency and had led almost inevitably to the death of both mother and child. Towards the end of the nineteenth century, however, it became the procedure of choice in certain conditions, such as contracted pelvis, and allied to the use of antisepsis was generally less fatal to the mother than other contemporary treatments, such as craniotomy.

[6]Loudon, *Death in Childbirth.* p. 136. Routh's table of caesarean section in Great Britain and Ireland (1911) shows comparative statistics for 1890-9 and 1900-9. These exhibit a rise in the number of contracted pelvis cases treated by caesarean from 7 out of 135 to 74 out of 259. Maternal mortality fell in the same period from 2.9% to 2.3%, and foetal death rate from 23% to 8%. The foetal death rate declined more rapidly because caesarean replaced craniotomy, a technique that was invariably and inevitably fatal to the child.

[7]Weatherall, M. *In Search of a Cure: A History of Pharmaceutical Discovery.* (Oxford, 1990). p. 109. Carl Koller first used cocaine for eye surgery in 1884, and after publication it's use spread quickly. Novocain became available from the 1890s.

Early twentieth century advances brought an increased sophistication to the pharmacopoeia, with the introduction of such drugs as aspirin and salvarsan and the revolutionising sulfanilamides of the 1930s.[8] The medical profession in Britain, Europe and America underwent a rapid change, inaugurating the era of 'modern medicine' with its hospitals and clinical teaching, divisions of specialisation, reliance on technological diagnostic aids, intrusive therapeutic techniques and the regulation of pharmaceuticals.[9] This is not to suggest that the early twentieth century medical profession had conquered disease and overcome all scientific boundaries. Indeed, diagnostic precision was well in advance of therapeutic potential and continued to exceed it throughout the period. Only in the field of surgery was any real curative advantage gained in the course of the nineteenth century, and that too still had its limitations.[10] Hence, even by the early twentieth century, surgery could still not touch the heart or effectively curtail diseases like cancer, therapy revolving around the removal of obvious and accessible tumours. Meanwhile, abdominal surgery still yielded a heavy harvest of peritonitis.

Despite the gulf between academic knowledge and practical medicine, the emergence of the new scientific disciplines of bacteriology, microscopy, immunology and applied chemistry elucidated many of the invisible forces of

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[8]Weatherall. *In Search of a Cure.* pp. 150-2. Aspirin was introduced in 1899 and was useful as both a painkiller and anti-febrile; salvarsan or 606 appeared in 1909 and was Ehrlich's magic bullet for syphilis which inaugurated 'chemotherapy', the production and synthesis of purely chemical drugs as opposed to those based on plant or animal organisms; the sulfanilamides were the first antibiotics and were clinically discovered in 1935, although they did not become widely available until the 1940s.

[9]Diagnostic instruments had been increasing in availability throughout the nineteenth century, from the stethoscope of the early 1800s to the clinical thermometer of the 1870s and the X-rays of the 1890s; but as the twentieth century progressed, the profession became increasing reliant on the laboratory and technician for diagnostic procedure, as the ability to identify causative organisms made both new and familiar instruments more useful. For example, the microscope was invented in the seventeenth century, but not used widely by ordinary clinicians until bacteriology emerged at the end of the century.

[10]Bynum. *Science and the Practice of Medicine.* p. 225. The pharmaceutical exception quoted by Bynum was quinine, the only drug which demonstrated effective potency in the face of a major killer. However, even this was not used widely as a prophylactic.

disease. Germ theory as promulgated by Pasteur and Koch, debunked miasmatics, although the concept of germs was not accepted by all, even in 1900.[11] Nevertheless, mainstream medicine eagerly grasped germ theory and with it, the attendant importance of clinical hygiene and preventive sanitation. The very impotence of therapeutics put a primacy on prevention and public health. Thus, vaccination and immunology became popular with both clinicians and government health officials, culminating in the compulsory smallpox vaccination acts, while public health in general began to benefit from legislative compulsion and intervention. It was in this new climate of discovery and control that another new discipline emerged towards the end of the century, that of tropical medicine. Not so much a separate science as a splinter group, it nevertheless gained credence and authority from the need to effect some degree of disease control in the Empire. Since Europeans had first set sail for the tropics, disease had lain waste armies and colonisers and the rise of tropical medicine was a reflection of an optimism that now, perhaps, the tropical climes could be tamed and made safe for full Western infiltration. Sir Patrick Manson, the father of Tropical Medicine, evinced a different and more esoteric rationale for the distinction, defining tropical medicine as being primarily based on the parasitic diseases known to proliferate in the warmer climates of the Indies.[12] Indeed, tropical disease was the final frontier of imperial conquest. Having seized territory, crushed native rebellion and quelled resistance, the only hurdle to the successful assimilation of the tropics by the European genus was the barrier of disease. High mortality not only curtailed colonisation and sabotaged military strength, it also undermined the introduction of technological infrastructure. The necessity of surmounting this last barrier was amply

[11]Bynum. *Science and the Practice of Medicine.* p. 218.

[12]Diseases such as malaria, yellow fever, kala azar, and schistosomiasis which are conveyed by parasitic vectors and/or are parasitic organisms. For example, malaria is a parasitic disease caused by *plasmodia*, but is also conveyed by the parasitic anopheles mosquitoes. Yellow fever is a viral disease which is conveyed by parasitic mosquitoes, and schistosomiasis is a parasitic worm infection that does not use a vector for transmission.

demonstrated by the failure to construct the Panama Canal in the 1880s. Ferdinand de Lesseps attempt faltered in the face of crushing mortality from yellow fever, and the project was abandoned until 1904.[13]

Tropical medicine, then, emerged in the 1890s as the latest weapon in the Western medical armoury and yet it was not intrinsically new. Necessarily, since the first Europeans set foot on 'tropical' soil, there had been a vested interest in understanding and controlling the causes of disease. Doctors had been in the vanguard of the earliest advances on imperial territory, and there had been a continuous publication of medical discovery from the earliest years.[14] The East India Company physicians evolved into a cohesive and specialised fraternity that became the Indian Medical Service, and yet the term 'tropical medicine' was not borne until the late nineteenth century and has been inextricably associated ever since with Sir Patrick Manson. Manson certainly owed much to the work of others who had practised in India, the West Indies, China and other 'tropical' areas before him, right back to men like James Lind.[15] Nevertheless, it was only under Manson that the specialty moved not only into mainstream medicine, but also onto centre stage. Historians, like David Arnold, have questioned the validity of the label 'tropical medicine', given the heritage on which Manson built and the ubiquitous

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[13]Altman, L K. *Who Goes First?*. (New York, 1987). p.129; Kiple, K. (ed.) *The World History of Human Disease*. (Cambridge, 1993). p. 1105. During the eight years that de Lesseps and his crew worked on the canal, upwards of 22 000 died. The mosquito vector was discovered in 1900 and eradication programmes followed, allowing the construction of the canal to begin in 1914. A vaccine was not developed until the 1930s, and eradication programmes have since proven an inadequate long term measure.

[14]James Lind published a book called *Diseases Incidental to Europeans in Hot Climates* in 1768. Other examples included James Annesley, *Sketches of the most Prevalent Diseases of India* (1831), J R Martin, *The Influence of Tropical Climates on European Constitutions* (1856), R S Mair, *A Medical Guide for Anglo-Indians* (1874), W M Moore, *The Constitutional Requirements for Tropical Climates* (1884), and deference was still paid to works like that of Garcia d'Orta, *Colloquies on the Simples and Drugs of India* (1568) and Bontius, *On Tropical Medicine* (1642).

[15] Balfour, A. 'Some British and American Pioneers in Tropical Medicine and Hygiene'. *Transactions of the Royal Society of Tropical Medicine and Hygiene*. Vol. 19, 4. (1925). pp. 189-231. p. 191. Balfour accepted Manson's right to the title Father of Modern Tropical Medicine, but was anxious that the contribution of those who had gone before should not be discounted.

nature of some of the diseases appropriated for the tropics. Certainly many of the diseases common to the tropics were not unknown in England, and Arnold points to the idiosyncrasy of tropical medicine as the only medical specialisation that is defined geographically.[16] Indeed, Arthur Balfour regarded the title 'tropical medicine' as something of a misnomer, given that Hippocrates had described and identified many of the conditions since relegated to the tropics. Nevertheless, Balfour did allow that the treatment of disease in the tropics differed from that of more temperate spheres.[17] Such esoteric wrangling over terminology was surely redundant, since Manson justified the categorisation and answered these very criticisms in the preface to the first edition of his work on tropical diseases.[18] Here, he acknowledged that the title 'Tropical Diseases' was 'more convenient than accurate. If by 'tropical diseases' be meant diseases peculiar to, and confined to, the tropics, then half a dozen pages might have sufficed for their description ... if the expression 'tropical diseases' be held to include all diseases occurring in the tropics, then the work would require to cover almost the entire range of medicine.'[19] Therefore, Manson chose to determine tropical diseases as those which, if not specifically unique, were certainly of serious consequence in the tropics and he came to focus primarily on clinical parasitology.[20] Malaria became Manson's cause célèbre, and it was he who encouraged Ronald Ross to pursue the mosquito connection and who publicised Ross's work among the medical hierarchy.[21]

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[16]Arnold, D. (ed.) *Warm Climates and Western Medicine: The Emergence of Tropical Medicine 1500-1900.* (Atlanta, 1996). p.2-4.

[17]Balfour. 'Some British and American Pioneers'. p. 191.

[18]*Tropical Diseases: A Manual of the Diseases of Warm Climates* by Patrick Manson was first published in 1898 and has since been re-edited, updated and re-issued to the present day, the latest re-incarnation being the 20th edition published in 1996.

[19]Cook, G C.(ed.) *Manson's Tropical Diseases.* 20th edition. (London, 1996). Quotation from the original introduction, p. 10.

[20]Low, G C. 'A Retrospect of Tropical Medicine from 1894-1914'. *Transactions of the Royal Society of Tropical Medicine and Hygiene.* Vol. 23, Part 3. (1929). pp. 213-232. p. 214; Bynum. *Science and the Practice of Medicine.* p. 149.

[21]Low. 'Retrospect of Tropical Medicine'. pp. 216-17. Ross discovered the role of the anopheles mosquito as the vector for transmission of the malarial plasmodium in 1897, coincidentally with Giovanni Grassi. Manson advised Ross on the course of his research, lobbied the India Office to

The tropics became a popular destination for medical men and women and with the elevation of medicine in the tropics to a clear and defined specialty, it gained in both status and applicants.[22] The professional status of the imperial medical corps has been seen by Douglas Haynes as the determining factor behind the sudden eminence of tropical medicine. He identifies a correlation between the overcrowding of the medical profession in Britain and the realisation of an exclusive discipline in tropical medicine. Thus, as professional practice at home became increasingly choked and competitive, more and more graduates were forced to find placements overseas. The Indian Medical Service and the sister services elsewhere had been the historic home of the lower status professionals, who lacked the finance and social standing necessary to achieve reputable and lucrative private practice in London or the provinces. However, this taint was removed by the symbolisation of the tropics as the home of progressive medicine, while the reputation of the specialty was further elevated by the establishment of the School of Tropical Medicine and the provision of segregated journals for the publication of research. This metamorphosis of tropical medicine consequently also enhanced the status of the imperial service.[23] While Haynes's conjecture holds some validity, it perhaps overstates the case. Many forces converged at the end of the nineteenth century to give impetus to the science of tropical medicine, notably the germ theory of disease, the importance of assimilating new areas of conquest, and an assumption by the State of the 'constructive imperialism' defined by Joseph Chamberlain.

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provide him with special leave, presented his findings to eminent medical men, and organised the publication of his data in prestigious journals. Ross was recognised with the Nobel Prize in 1902. Grassi's contribution went unacknowledged.

[22]Manson, P. 'The Necessity for Special Education in Medicine'. *The Lancet.* (October, 1897). pp. 842-845. p. 842. Manson estimated in 1897 that a fifth of the medical graduates of Great Britain and Ireland saw practice in the tropics.

[23]Haynes, D. 'Social Status and Imperial Service: Tropical Medicine and the British Medical Profession in the Nineteenth Century'. Arnold. (ed.) *Warm Climates and Western Medicine.* pp. 208-226.

New Imperialism, heralded by the scramble for Africa, increased the urgency for European adaptation and amelioration of the 'tropical' environment. The cost of maintaining an Empire was prohibitively increased by the constantly high rates of mortality, morbidity and convalescent discharge among the army, and full colonisation without conquest of both territory *and* environment was an impossibility. Hence the need for specialised medicine. Joseph Chamberlain, moreover, saw the role of imperialism as owing more to benevolent patronage than militaristic tyranny, and his concept of social and economic imperialism relied on the health of the servants of the Empire. At a charity dinner to raise money for the London School of Tropical Medicine in 1899, he stated that 'the man who shall successfully grapple with this foe of humanity and find the cure for malaria, for the fever desolating our colonies and shall make the tropics livable for white men 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'.[24] The possibility of securing territory *and* settlement without unacceptable levels of mortality was potentially advanced by the acceptance of the germ theory of disease. First propounded by Pasteur and Koch, this theory proved that disease was not, ironically, specifically associated with climate, locality and race, but was instead reliant on transmission through various mediums of identifiable pathological organisms. Such a realisation removed the taint of pathology from the Indian and African climate, and offered instead a very real hope of disease control in those areas.[25] Manson's vision coupled with Chamberlain's patronage spawned the London School of Tropical Medicine, which was to act both as a focus for the 'new' discipline and as a centre of

[24]Cook. *Manson's Tropical Diseases*. p. 6. Trade, administration, agriculture, and the modernisation of infrastructure all relied on having healthy Europeans to supervise, instruct and organise the work.
[25]Cook. *Manson's Tropical Diseases*. pp. 3-5.

compulsory training for those intending to practice in the Colonies.[26] Medical appointments became conditional upon some period of instruction at the School, a stipulation which guaranteed both the status of tropical medicine as an essential facet of the modern medical curriculum and the survival of the London School of Tropical Medicine as the principal seat of study.[27]

Manson regarded such specialised teaching as an essential pre-requisite for any doctor contemplating medical service overseas, since even the most advanced and sophisticated instrumentation was useless without the expertise to apply it. For example, if the doctor was unable to recognise the malarial parasite, a microscope would avail him little.[28] Doctors who had embarked on a career in the tropics prior to the establishment of the LSTM and the imposition of educational protocols were able to take advantage of short courses in tropical medicine at both British institutions, with the London School offering month long courses specifically designed to correspond with periods of furlough.[29] The LSTM was not, however, solely a teaching institute, it was also set up as a centre for research. Again, research into tropical medicine was not a novelty, but had been continuing quietly and spasmodically since the first doctors, botanists and explorers had reached the tropical climes. Manson in China, Ross in India and many others had contributed to the accumulation of knowledge through individually defined and largely

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[26]Cook. *Manson's Tropical Diseases*. pp. 6-9. The Liverpool School was established more or less simultaneously, but did not benefit from Government patronage. This created a degree of hostile rivalry between the two Schools, with the London School retaining much of the limelight and the entire share of Government funding.

[27]Cook. *Manson's Tropical Diseases*. p.9; Manson. 'The Necessity for Special Education'. p. 845. This stipulation had first been proposed by Dr Andrew Davidson and promoted by Patrick Manson in 1897. In February 1899, Joseph Chamberlain issued a letter that stated that all doctors appointed to the Colonial Service must have been attached to the Albert Dock's Hospital (the clinical site of the LSTM) for at least 2 months. The Liverpool School was eventually granted similar validation, despite it's lack of central funding.

[28]Manson. 'The Necessity for Special Education'. p. 842-843.

[29]Cook. *Manson's Tropical Diseases*. p.10. The Liverpool School ran a similarly advanced practical course.

unsupported research projects.[30] There was no guidance, no stimulus and no support for those deciding to investigate specific organisms and research was, therefore, reliant on the degree of imagination, energy and financial security of the given individual. The treacherous exotic environment combined with professional severance resulted, unsurprisingly, in research being a typically low priority among colonial doctors, who remained primarily concerned with clinical responsibilities rather than academic glory.[31] P O Williams sees the early history of colonial medical research as one marked by a few paltry research workers operating with neither formal research training or adequate facilities, and yet undertaking a vast array of research without the aid or academic support of the universities in Britain.[32] This view is shared and elaborated by Mark Harrison, who describes the IMS as positively hostile to research and innovation, and points to the lack of study leave granted to IMS officers and the almost insurmountable difficulties of obtaining laboratory supplies in India as proof.[33] The advent of the Schools of Tropical Medicine breached the isolation slightly, and research was given a further boost by the establishment of the Tropical Disease Research Fund, headed by the Dean of the LSTM, and by the publication of professional specialised journals in which hypothesis, discovery and debate could be shared among an expert community.[34] For Manson, the School and the Fund offered a vista of potential achievement which would not only elucidate medical conundrums, but would 'strike effectively at the root of the principal difficulty of most of our Colonies-disease. It [would]

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[30]Cook. *Manson's Tropical Diseases.* p.4. Manson's claim to fame was his discovery of the mosquito vector in the life-cycle of the nematode worm, *Filiaria*, responsible for Filiariasis (elephantiasis).

[31]Cook. *Manson's Tropical Diseases.* p.5.

[32]Williams, P O. 'The Scientific Neglect of Tropical Medicine'. Wood, C. (ed.) *Proceedings of the Anglo-American Symposium on Tropical Medicine.* (London, 1977). pp. 15-23, p.16.

[33]Harrison, M. *Public Health in British India: Anglo-Indian Preventive Medicine 1859-1914.* (Cambridge, 1994). p.150.

[34]Harrison. *Public Health in British India.* pp. 150 & 156. For example, the *Journal of Tropical Medicine* founded by James Cantile and W J Simpson in 1898, which facilitated the interchange of ideas and knowledge about various aspects of tropical disease and aimed at 'fostering a sense of community among medical men working in the tropics'.

cheapen government and make it more efficient. It [would] encourage and cheapen commercial enterprise. It [would] conciliate and foster the native'.[35]

By the end of the nineteenth century, tropical medicine had become an integral component of colonial enterprise and it was further endorsed by the commitment of the Curzon administration, prompted by the findings of the Plague Commission, to establish a network of laboratories throughout British India for the investigation of disease and the production of vaccines and sera. A Central Research Institute was set up at Kasauli and it was intended to bring the other existing laboratories under Government control.[36] Nevertheless, despite the widespread promotion and sponsorship of the tropical medicine specialty which facilitated the establishment of infrastructure and a specialised academic community, the 'science' exhibited a decidedly preventative rather than curative bent. For example, Ronald Ross, who had elucidated the transmission cycle of the malarial parasite, went on to focus exclusively on the extirpation of mosquitoes as the only feasible method of combating malaria, and this sanitary role came to dominate the Liverpool School of Tropical Medicine with which he was predominantly associated, as well as many other tropical medicine agencies.[37] This is not to demean the role of tropical science. Curative power was singularly lacking in most branches of nineteenth and early twentieth century medicine and the tropical field was to be no different. The discovery of vectors and causative organisms clarified diagnosis, increased understanding of the environment and promoted medical prowess, but it could do little to provide therapeutic resolution of the specific disease. Instead vaccination,

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[35]Cook. *Manson's Tropical Diseases.* p. 6.
[36]Harrison. *Public Health in British India.* p. 156. Harrison acknowledges that much of this scheme remained 'on paper', but argues that the provision should not be discounted given that some of the laboratories established under Curzon were still in operation after Independence.
[37]Cook. *Manson's Tropical Diseases.* p. 9.

sanitation and public health measures were used to try and thwart the transmission cycles.

The tropics were, by the end of the nineteenth century, apparently being brought to Imperial heel. The pessimism of early decades began to subside with the prospect of eradicating the punishing spectrum of tropical mortality, and India's pathological reputation began to recede into historical anomaly. Nevertheless, the rigours of the climate retained a hold on the European consciousness simply because the overpowering heat of the plains constantly reminded them that they had been transplanted from more temperate soil. 'This heavy, unnatural atmosphere overwhelms me ... the air is so oppressive, it appears full of dust, so white, so hot!'[38] From the first expeditions to India, the West Indies, Africa and other tropical and sub-tropical environments, travellers had returned with theories of racial immunity, climactic pathology and human adaptability which became incorporated into the theories of acclimatisation. Initial forays had resulted in qualified optimism about the potential for European colonisation. James Lind had been relatively hopeful that, after a period of inevitable sickening, the European would be 'habituated' and would suffer no more illness than his contemporaries at home.[39] Others, such as George Ballingall ascribed tropical illness to intemperate habits and personal mismanagement, and maintained that proper discipline and avoidance of excess would afford sufficient protection to tropical disease.[40] However, Lind's sanguine

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[38]Suleri, S. *The Rhetoric of English India.* (Chicago, 1992). p. 90. The quotation is from Fanny Parks Journal, published in 1850.

[39]Lind, J. *Diseases Incidental to Europeans in Hot Climates.* (London, 1768). p. 155.

[40]Harrison, M. '"The Tender Frame of Man": Disease, Climate and Racial Difference in India and the West Indies 1760-1860.' *Bulletin of the History of Medicine.* Vol. 70, (1996). pp. 68-93. p.75; Morris, R. J. *Cholera 1832.* (New York, 1976). p. 138; Wohl, A S. *Endangered Lives: Public Health in Victorian Britain.* (London, 1983). p. 73. Ballingall published a treatise called *Practical Observations on Fever, Dysentery and Liver Complaints as they occur amongst the European Troops in India* in 1818. This theory was a familiar theme with contemporaries at home, who attributed the incidence of cholera and other diseases to the intemperance and filthy habits of the urban population.

optimism, although shared at the time, was quickly replaced in the early decades of the nineteenth century by a deepening sense of pessimistic fatalism, signified by the definition of the tropics as 'the white man's grave'.

It was undeniable that the mortality in India and other hot climates was much greater than that experienced in England and morbidity too wreaked a terrible price, resulting in many men returning home in shattered health.[41] Philip Curtin has assessed the levels of mortality experienced by the British Army in India, and while this is not wholly representative of the civilian experience in the tropical climate, it does at least give an indication of the incidence of disease and mortality.[42] In the eighteenth century, the death rate among soldiers stationed in India was seven times higher than that of their contemporaries in England. Nor did it improve. By 1863 military statistics revealed that 4 830 of the 70 000 Europeans serving in the Army would die each year; while over 5 880 more would be languishing in hospital at any one time.[43] The death rate for enlisted men was estimated, in the same year, at 69 per 1 000, compared with 9 per 1 000 for men of military age living in England. Mortality among officers was lower at 38 per 1 000, perhaps reflecting the superior

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[41]Harrison. *Public Health in British India.* p. 50, quoting from R S Mair's *Medical Guide for Anglo-Indians* of 1874. Barr, P. *The Memsahibs: The Women of Victorian India.* (London, 1976). pp. 25 & 79; Judd, D. *Imperialism: The British Imperial Experience, from 1765 to the Present.* (London, 1996). p. 80. Emily Eden spoke of the men wizening grey and the women wizening yellow, and stated that everyone appeared to be over 50. An anonymous traveller to Bombay in 1844 commented on the 'unhealthy and ghastly appearance' of the European women he saw there. Denis Judd estimates that over the course of British residence in India, over 2 million Britons succumbed to a premature death.

[42]Curtin. *Disease and Imperialism.* p. xvi. Military death rates differed from the general population in that the sample was on one hand healthier, being made up of men in the prime of life and in good physical health who were afforded regular medical examination. On the other hand, the troops would be equally unrepresentative given that they lived in the barracks which, particularly before 1863, were insanitary, overcrowded and unhealthy; and also suffered higher mortality during campaigns, from both field casualties and disease.

[43]Report of the Royal Commission Appointed to Inquire into the Sanitary State of the Army in India. *Parliamentary Papers;* (1863) Vol. XIX, Part I, p. xvii.

accommodation assigned to them.[44] Overall, it was estimated that the remaining life expectancy of a twenty year old soldier in India was 17.7 years, whereas in England that same soldier could anticipate a further 39.5 years.[45] Civil servants died at the lower rate of 20 per 1 000, but even that was well in excess of the 10 per 1 000 'correct' mortality calculated by the Royal Commission on India. That rate was not achieved until 1907.[46] However, by the end of the nineteenth century, military death rates had fallen to within the 'acceptable' limits identified by the Royal Commission in 1863. The Commission had set a short term target of 20 per 1 000 mortality, with the longer term aim being to reduce it to 10 per 1 000. Figures soon fell within this range, standing at 17 per 1 000 for the period 1886-1895. Loss through morbidity was still high, however, with 38 per 1 000 being invalided home annually.[47] The Royal Commission also enumerated four specific diseases which they regarded as primarily responsible for the high mortality among the troops, namely fever, dysentery, liver disease and cholera. This conclusion was statistically supported by the Bombay returns for the period 1830-46, which revealed that 74% of all deaths were attributable to those four classifications.[48] On a more positive note, Curtin points out that disease specific death rates actually showed Indian service to be beneficial in terms of the incidence of tuberculosis and lung diseases, and mortality from malaria was outweighed 3-1 by these lower levels of tubercular morbidity. Nevertheless, deaths from intestinal complaints more than compensated for the relocation benefit afforded by tuberculosis and even by 1888,

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[44] Report on the Sanitary State of the Army in India. p. lv. The officers quarters were in detached buildings, well-ventilated and reportedly of good condition, although they shared the same problems of inadequate water and sewerage disposal as the enlisted men.

[45]Report on the Sanitary State of the Army in India. p. xi.

[46]Report on the Sanitary State of the Army in India. pp. x, xi, xix, lxxxii.

[47]Report on Sanitary Measures in India. *Parliamentary Papers*; (1898-1899) Vol. LVIII, p. 361; Report on the Sanitary State of the Army in India. p. lxxxi.

[48]Report on the Sanitary State of the Army in India. p. xiii; Tilt, E J. *A Handbook of Uterine Therapeutics and of Diseases of Women.* (London, 1868). pp. 369 & 372. The Bombay figures recorded that 32 in every 100 deaths were due to dysentery and diarrhoea, 23 to fever, 10 to cholera and 9 to liver disease. E J Tilt believed that tropical heat led to abdominal pathology, chiefly affecting the liver and bowels, although he also noted the inescapable prevalence of malaria.

fever and enteric disease were the biggest single causes of mortality among the troops.[49]

It was believed that the European constitution was weakened by exposure to the glaring sun, humid atmosphere and fluctuating temperatures of the tropical regions, which afforded intense heat during the day and chilling cold after dusk.[50] However, there was initial confidence that, with proper attention to diet, clothing, hygiene and morality, white colonisers could weather the tropics and become adapted to the insalubrious conditions.[51] As time went on, however, confidence waned and the prescribed methods of adaptation came to be regarded as affording a purely ameliorative effect. Nevertheless, writers continued to urge readers to follow the advice in an attempt to mitigate, albeit slightly, the pernicious effect of the climate. For example, the Royal Commission report instructed European soldiers to refrain from eating too much meat and recommended the adoption of a vegetarian diet in preference. It also warned against the dangers of over-eating *per se*, and of intemperance, idleness and general immorality.[52] Treatises and pamphlets on this subject were produced in abundance, all of which proffered practical advice on such matters as diet and dress, construction of housing and the value of morality and restraint.[53] The memoirs of J Howard Thornton contain extensive advice on how

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[49]Curtin. *Death by Migration.* p.39; Report on Sanitary Measures in India. *Parliamentary Papers;* (1887-1888) Vol. LVIII, p. 693.

[50]Report on the Sanitary State of the Army in India. p. xxxi; Tilt. *Diseases of Women.* pp. 366-8.

[51]Worboys, M. 'Germs, Malaria and the Invention of Mansonian Tropical Medicine: From 'Diseases in the Tropics' to 'Tropical Diseases'.' Arnold. *Warm Climates and Western Medicine.* pp. 181-207 p. 183.

[52]Report on the Sanitary State of the Army in India. p. xxxvii; Harrison. *Public Health in British India.* p. 50. R. S. Mair reflected much of this wisdom in his 1874 treatise 'Medical Guide for Anglo-Indians'.

[53]Some examples being: J Johnson, *The Influence of Tropical Climates on European Constitutions.* (1815); J Jeffreys, *The British Army in India: Its Preservation by an Appropriate Clothing, Housing, Locating, Recreative Employment and Hopeful Encouragement of the Troops.* (1858); E A Parkes, *Manual of Practical Hygiene.* (1864); E J Tilt, *A Handbook of Uterine Therapeutics and of Diseases of Women.* (London, 1868); J Cole, *Notes on Hygiene With Hints on Self-Discipline for Young Soldiers in India.* (1882); J Fayrer, *On the Preservation of Health in India.* (1894).

best to weather the Indian climate, recommending 'a temperate and active life, and .. strict observance of the rule of moderation in all things'. More specifically, Thornton admonished the Europeans in India for eating too much and warned against too frequent recourse to alcoholic drinks. Indeed, drinking *anything* more than an occasional light wine with soda was deemed by Thornton to be detrimental, and he was especially urgent in his counsel regarding fluid intake. *He* never drank except at meals and was consequently, he believed, less bothered by thirst than others who imbibed too freely. Gentle exercise in the open air should be taken every day, but with the proviso that precautions against the sun be maintained by wearing a pith helmet and a heavy padded coat to protect the spine. Night air, too, was injurious and it was better to sleep inside with all the doors and windows shut and bear the uncomfortable heat, than risk exposure to a casual chill. Flannel underclothing was recommended at all times. Thornton insisted that it was a strict adherence to this regime that had enabled him to pass thirty-five years in relative health and to return to England with an unimpaired constitution.[54] Thornton's notions were neither unique nor eccentric, and the majority of his ideas had been circulated for many years. Indeed, Sir Joseph Fayrer concurred wholeheartedly with his precautionary tactics, and repeated the salutary testimony of an anonymous soldier in India who concluded that his comrades were largely accountable for their own fate. 'They eat and they drink, and they drink and they eat, till they die, and then they write home and say it was the climate that killed them'! Fayrer cautioned against 'giving way to passion, excitement and irritability of temper', but regarded wearing flannel or light woollen underclothing as 'the cardinal point, never to be disregarded', in securing health in India. He also advocated immersion in a cold

[54]Thornton, J Howard. *Memories of Seven Campaigns*. (London 1895). pp. 358-9.

bath every morning, but maintained that a warm bath was 'not a good daily habit' and should be indulged only to offset febrile symptoms or other indisposition.[55]

Theories were advanced and ideas exchanged in what became a veritable debate about acclimatisation. Women and children were deemed to be especially susceptible to the ravages of an intemperate climate, and reference was frequently made to the degree to which women fell victim to disease, languor and menstrual abnormality. E J Tilt, for example, reported that although English women arrived 'fresh and rosy' from England 'the first hot season blanches all colour from their cheeks, and the longer they remain the more subject they are to deranged menstruation and to uterine affection'. John Clark had made similar observations in 1809, referring to the degeneration of women into a languid, supine and enervated state due to the heat; while Sir William Moore, honorary surgeon to the Viceroy, stressed the deleterious effects of heat upon menstrual function.[56] Female mortality was certainly high, reaching 35 per 1 000 for the non-commissioned officers wives, and although the officers wives apparently fared better, recording a rate of only 14 per 1 000, this was statistically inaccurate because so many were invalided home to Europe.[57] Children were even less able to support the rigours of the Indian

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[55]Fayrer, J. *On Preservation of Health in India.* (London, 1894). pp. 10, 22, 24 & 32; Harrison, *Public Health in British India.* pp. 304-5; Curtin. *Death By Migration.* p.107. Other examples of cautionary pamphlets and treatises include William Twining. *Clinical Illustrations of the Most Important Diseases of Bengal with the Results of an Enquiry into their Pathology and Treatment.* (Calcutta, 1835); James Johnson. *The Economy of Health or the Stream of Life from the Cradle to the Grave.* (London, 1837); J R Martin. *The Influence of Tropical Climates on European Constitutions.* (London, 1856); E J Tilt. *A Handbook of Uterine Therapeutics and of Diseases of Women.* (London, 1868). All of these make reference to similar claims as Thornton, and Curtin quotes French sources promoting these same regimes from 1810 right through until 1900.

[56]Tilt. *Diseases of Women.* p. 362; Clark quoted in Harrison. 'The Tender Frame of Man'. p.74; Moore quoted in Harrison. 'Tropical Medicine in Nineteenth Century India'. p. 316.

[57]Tilt. *Diseases of Women.* p. 363; Curtin. *Death by Migration.* p. 98; Report on the Sanitary State of the Army in India. (1863). p. xxv; Report on Sanitary Measures in India (1887-8). p. 693. Curtin's statistical study shows that women's death rates continued to exceed those of the military men throughout the period 1899-1913. Official Government statistics at the time recorded the female death rates to be 38 per 1 000 in 1863 (corresponding to the officer death rate) and 20 per 1 000 in 1888, compared to the statistic of 17 per 1 000 for military men.

environment, and it remained an unswerving conviction of colonial medical authority that children should be sent home to grow up in the healthful climate of England.[58] Infant mortality did appear to be somewhat elevated in the tropics, with the national figure for 1860 recorded at 60 per 1 000. This mean rate, however, disguised mortality blackspots such as Bengal, where infant mortality was as high as 83 per 1 000.[59] Even in 1889 the children's death rate was reported at 48 per 1 000, the principal causes being convulsions, diarrhoea and 'debility'.[60] The statistical picture was reflected in everyday tragedy with a host of women losing as many as three out of five children, and miscarriage occurring with much greater frequency than in England, particularly during the hot season.[61]

By mid-century, any latent optimism about the possibility of permanent settlement had dissipated, and the Indian Mutiny of 1857 added further piquancy to the disquiet about the state of European health. It was claimed by some, most notably Julius Jeffreys in his treatise on the British Army, that the natives had taken wily advantage of the constitutional weakness of the Europeans, plotting their rebellion to coincide with the hot season when the white man was wilting in the heat and easy prey to the rampant attentions of cholera and enteric fever.[62] The deleterious effect of the hot season on the strength of the army had been noted by Sir Charles Gordon

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[58]Fayrer, J. *European Child Life in Bengal.* (London, 1873). p.30; Ross, R. *Memoirs.* (London, 1923). p. 20; First Report of the Committee Inquiring into the Colonisation and Settlement of India. *Parliamentary Papers*; (1857-8) Vol. VII, Part I, p. 26. Joseph Fayrer, President of the India Office Board, called for parents to despatch their children home 'lest their mental and physical powers be drained'; Ronald Ross was sent home to England when he reached eight years of age 'for health and education'; and the Committee investigating colonisation in 1858 thought that European children would not grow up with such vigour in India as they would in England, although some improvement could be made by sending them to the hills.

[59]Report on the Sanitary State of the Army in India. p. lxxi, xcvii. These figures were for European children, not the natives.

[60]Harrison. *Public Health in British India.* p.50.

[61]Kaye, M M.(ed.) *The Golden Calm: An English Lady's Life in Moghul Delhi.* (Exeter, 1980). p. 49; Barr, P. *The Memsahibs: The Women of Victorian India.* (London, 1976). p.18; Tilt. *Diseases of Women.* p. 372. Barr recounts the death of one of Lady Wimberley's children from a bowel disorder and states that very few parents stationed in India did not lose *at least* one child.

[62]Harrison. 'The Tender Frame of Man'. p. 88.

in 1853, who referred to 'the general depression of physical prowess' afflicting the entire force and the elevated number of deaths from 'climatic sickness.'[63] The appointment of the Royal Commission to Inquire into the Sanitary State of the Army in India in 1859 was partly an attempt to address just this problem, since the European element of the military force had been notably slow and weak to respond to the Mutiny, owing to a decimation in the ranks due to disease. The Commission's findings included a recommendation about the establishment and stationing of military cantonments in the hills, where the climate was less damaging to health and where troops could recuperate from manoeuvres on the plains.[64] This recommendation was never fully implemented, since any such policy would have limited the capability of the Army to respond to crisis or uprising, and would have necessitated vital garrisons being left unattended. Instead, a limited degree of rotation was instituted, which allowed one third of the Army to be stationed in the hills at any one time. James Ranald Martin, who sat on the Commission, had formulated these ideas prior to the appointment of the Royal Commission and had actually envisaged a dual structure with the British troops policing the hills and the native sepoys operating on the plains.[65] This, unsurprisingly, met with little favour in the aftermath of the Mutiny, and it was instead decreed that the limited rotation would be combined with the permanent staffing of vulnerable or strategic garrisons, which would be held at all times by British troops regardless of insalubrious conditions.[66] The Mutiny irreparably soured relations between the British and the natives, leading to both physical and intellectual segregation with the white man studiously avoiding any emulation of native habits and, instead, seeking to establish

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[63]Gordon, Sir Charles Alexander. *Recollections of Thirty-Nine Years in the Army.* (London, 1898). p. 87.
[64]Report on the Sanitary State of the Army in India. p. lxxv.
[65]Report on the Colonisation and Settlement of India. p. 17. Martin had given evidence in 1857 to the Committee appointed to Inquire into the Colonisation and Settlement of India, in which he urged the permanent removal of the troops to the hills.
[66]Report on the Sanitary State of the Army in India. p. lxxiv.

the primacy of British standards by their vigorous imposition. More visibly, military cantonments and European establishments were located away from the towns and bazaars, which were increasingly seen as a source of physical and moral contamination.[67] Former willingness to learn about local flora and fauna from the indigenous inhabitants was replaced by disdainful abandonment of the botanical resource, while the adoption of native dress ceased in favour of rigid European fashion.[68]

Although the barrier between conquered and conqueror hardened in the aftermath of the Mutiny, the debate over acclimatisation remained flexible. However, since the embittered Europeans were no longer so inclined to look to indigenous traditions for clues on how best to flourish in the exotic heat, a new philosophy emerged which combined a sense of innate superiority with cultured vulnerability. Propaganda stated that Europeans were too civilised and well-nurtured to thrive in the savage heat of India, and previous schemes to inoculate westerners with native blood in order to heighten their adaptability found little favour in the new spirit of racial purity.[69] Europeans would not stoop to conquer. They would not degrade themselves by emulating the inferior native habits and their very vulnerability came to represent a mark of cultural supremacy. Joseph Fayrer, for example, warned

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[67]Report on the Sanitary State of the Army in India. p. xli.; Arnold, D (ed.) *Imperial Medicine and Indigenous Societies.* (Manchester, 1988). p. 8; Worboys. 'Germs, Malaria and the Intervention of Mansonian Tropical Medicine'. p. 198.

[68]E J Tilt in 1868 pointed out the benefits of native dress for women, especially in terms of protecting them from the vicissitudes of temperature, but his strictures made it clear that the fashion was decidedly in favour of strictly European clothing. Tilt. *Diseases of Women.* p. 368; Anderson, W. 'Disease, Race and Empire'. *Bulletin of the History of Medicine.* Vol. 70, (Spring 1996). pp. 62-67, p. 64; Harrison. 'Tropical Medicine in Nineteenth Century India'. p. 317.

[69]Harrison. 'The Tender Frame of Man'. p.91; Anderson, W. 'Immunities of Empire: Race, Disease and the New Tropical Medicine 1900-1920'. *Bulletin of the History of Medicine.* Vol. 70, (Spring 1996). pp. 94-118. p. 102. The French physician, S P Desmartis, proposed this 'inoculation' in 1859, and it was championed by James Hunt at a meeting of the British Association for the Advancement of Science in 1861. The idea continued to circulate even in the 1890s, but was never adopted. Some physicians also suggested that inter-racial marriage was a viable solution by which pre-adapted racial types could be bred.

explicitly against adopting the Hindu diet, which he compared contemptuously to 'the blubber that delights whilst it nourishes the eskimo'.[70] However, the colonial residents still felt the need to justify the inadequacies of the European constitution and this facilitated the emergence of another popular aspect of acclimatisation, the concept of innate native immunity.[71] This theory held good in the face of both miasmatics and bacteriology, and only began to wane when the realities of immunology became more apparent. The Indian immunity hypothesis was largely a product of ignorance resulting from the disproportionate, if not exclusive, concentration of medical researchers on the European community. This allowed the impression that some diseases were more prevalent and deadly among the white population, since native morbidity and mortality were not sampled sufficiently. Indeed, James Ranald Martin described knowledge of the native community in 1858 as being solely confined to the sepoy element of the Army. Tuberculosis, then, was reputed to be a predominantly 'white' disease, although this was probably because both regular physical examination and post-mortem of natives was extremely rare.[72] Anomalies were detected, such as the pre-disposition of natives to beri-beri and some other 'indigenous' diseases, but race-based immunology remained a popular facet of the acclimatisation debate for much of the nineteenth century. Nor is it entirely erroneous. Epidemiological theory predicts that without any kind of artificial barrier, such as vaccination or environmental controls, adult migration to a different ecological environment will result in vulnerability and susceptibility to disease, simply through a lack of conditional immunities normally built up during childhood.[73] In addition, some races do have natural immunity through certain

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[70]Harrison. 'The Tender Frame of Man'. p. 70; Fayrer. *On the Preservation of Health.* p. 27.
[71]Anderson. 'Immunities of Empire'. p. 101.
[72]Report on the Colonisation and Settlement of India. p. 20; Anderson. 'Immunities of Empire'. p.101. Joseph Ewart wrote on phthisis in India in 1868, but admitted that he had very little information about native susceptibility or disease rates, and also regarded the medical examinations performed by many of his colleagues as less than competent and unlikely to provide much illumination.
[73]Curtin. *Death By Migration.* p. 6.

genetic pre-disposition, most notably West-African immunity to malaria due to the sickle-cell trait.[74] However, some took the racial immunity theorem one step further and suggested that the Mediterranean and dark skinned Europeans would be more adaptable to the tropical climate, since pigmentation was, of itself, indicative of innate invulnerability.[75] However, in the late nineteenth century, the concept of innate immunity began to falter in the face of advanced scientific understanding of disease and an increased clinical interaction with the native community.[76]

By the end of the nineteenth-century, the perceived death rate differential between Europeans and natives had closed to a relative equilibrium and this allowed the Westerners to look askance at native hygienic standards and traditional practices, whilst simultaneously fostering their own notions of imperial superiority. Equally, since there was no longer any need to emulate or even justify *not* emulating indigenous lifestyles, the realisation that the theory of 'racial immunity' was fatally flawed did not engender a re-evaluation or tempering of colonial rationale.[77] Yet behind the complacent facade, it was increasingly acknowledged that white supremacy in the tropics was essentially illusory, and that the reality of control relied on a constant stream of new blood from England to bolster the occupying forces. White men would be at a perpetual disadvantage in the tropics because they had not been bred for the climate, and would therefore be eternally dependent on military strength for territorial ascendancy.[78] The thought of *abandoning* the

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[74]Savitt, T L. *Medicine and Slavery: The Diseases and Healthcare of Blacks in Antebellum Virginia.* (Illinois, 1978). pp. 27-8.
[75]Harrison. 'The Tender Frame of Man'. p. 89. Sir William Moore propounded this view in the 1880s.
[76]Anderson. 'Immunities of Empire'. p. 101 & 104. By the later nineteenth century, it came to be understood that immunity was a condition *acquired* through exposure to specific micro-organisms and was not a product of racial physiology. In 1884, Elie Metchnikoff described phagocytosis and the vogue of serum and immunology began.
[77]Curtin. *Death By Migration.* p. 108.
[78]Fortescue, J W. 'The Influence of Climate on Race'. *The Nineteenth Century.* Vol. 33, (August 1893). pp. 862-873, p. 862.

territory was never countenanced, but increasing acceptance of the innate incapacity of Caucasians to adapt to the 'torrid zones', fuelled the crusade to find other means to control the environmental threat.[79]

Acclimatisation strategies had also included the identification of so-called 'healthy' areas and the evolution of the hill station. Hill stations offered a respite from the heat and humidity of the plains, and the diminution of climactic intensity was deemed to confer exemption from disease. The hill station phenomenon dated from the 1820s, when resorts like Darjeeling, Mussoorie and the Neelgherries were first appropriated, and hill stationing gained further prestige in 1858, when the Crown Government instituted regular removal to Simla during the hot season. By 1894, Joseph Fayrer regarded the hill stations as the only viable residence for Europeans in India, and predicted that 'there the European and his descendants will thrive and continue to reproduce their race; while after the third generation his progeny will cease to exist in the plains'.[80] Mark Harrison partly ascribes the promotion of hill station life to a deliberate propaganda campaign by the authorities, who were anxious to secure personnel for service in India. He further suggests that it was only by providing these apparently safe havens for women and children, that any possibility of genuine colonisation could be realised.[81] Thus, it became common practice for all women and children to be removed to the hill stations before the hot season, a proceeding recalled by Ronald Ross in his memoirs.[82] In addition, it became standard practice after 1863 to sequester part of the army in the hills

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[79]India was too valuable in economic and military terms to be easily abandoned. The existence of a large standing army, paid for by the Indian taxpayers, which could be sent to fight for British interests all over the globe was a benefit second only to the commercially lucrative trading partnership. In 1900, it was reckoned that the control of India was worth £10 million a year in profit to the British Government, while the export market alone was valued at £137 million in 1910. In Lord Curzon's view, the possession of India was the means by which Great Britain attained and maintained her stature as a first rate power. Judd. *Empire.* pp. 77-78.
[80]Fayrer. *On the Preservation of Health.* p. 17; Harrison. *Public Health in British India.* p. 46.
[81]Harrison. *Public Health in British India.* p. 46.
[82]Ross. *Memoirs.* p. 18.

throughout the year, yet these refuges were not always the salubrious asylums they were believed to be. Mosquitoes were not deterred by altitude and where malarial carriers proliferated, hill stations could offer no more immunity than the plains. Indeed, the Royal Commission of 1863 was not entirely convinced of the restorative powers of the hills, commenting that the numbers of sick soldiers transferred to the hill stations for recuperation made any estimation of the true wholesomeness of such places impossible. The Commissioners did conclude that, while some preventive benefits might accrue from residence in the hill localities, there was little evidence that sojourn there could cure the sick. A view borne out by the experience of Sir Charles Gordon who sickened with fever and, after a period spent at Simla, was invalided home 'recovery [being] little likely to occur while I remained in India'.[83] Nevertheless, the vogue for altitude remained constant throughout the nineteenth and early twentieth centuries, and so fully convinced were the Europeans of the salutary effect of the hills that sanatoria began to proliferate there too.[84]

If hill stations took strong root in the folklore of acclimatisation, 'seasoning' was an equally well embedded philosophy. In childhood, epidemic and endemic disease ravage the young, and those who do not die are rendered immune. This aetiology was translated into the theory of seasoning, and bolstered by statistical analysis of the mortality and morbidity rates among soldiers new to the tropics.[85] Seasoning occurred during the first year or so of stationing and whilst rates of loss due to death and invaliding were serious, the remainder were regarded as at least partially

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[83]Report on the Sanitary State of the Army in India. p. lxxii, lxxiv, lxxv; Gordon. *Recollections.* pp. 102-3. The Commission recommended that the sick be invalided home without delay, rather than being sent to the hills.

[84]Report on the Sanitary State of the Army in India. p. lxxv; Nightingale, N. *Notes on Hospitals.* (London, 1863). p.151. Sanatoria had been established by 1863. In her work on hospital construction, Florence Nightingale associated low altitude with malaria and stated that it would be better not to have hospitals at all in such localities, although she recognised this was impossible.

[85]Fayrer. *On the Preservation of Health.* p. 35. According to Fayrer, almost all Europeans succumbed to fever, predominantly malarial, within a year of arrival.

acclimatised. Initially, therefore, the Army operated a policy of long-term tropical stationing, in order to make the most of the costly acclimatisation procedure. However, the Royal Commission in 1863 contradicted the Army statistics with evidence showing an increase in mortality among the longest serving soldiery, thus suggesting that *short* service was actually a more economical policy. The statistical evidence was supported by statements given to the hearing, which described how 'for the first five years the soldier is a very good man indeed in India, but after that he begins to break down'. Furthermore, 'the longer a soldier remains in India, the worse he gets'. The Commission consequently recommended a ten year limit on tropical service.[86] Joseph Fayrer believed that the process of seasoning could be accomplished at a significantly lower cost, if soldiers and other European migrants timed their arrival in India to coincide with the cold season. This would 'form a fitting preparation for the heat that is to come', a heat which was 'intolerably oppressive' and under which 'the constitution becomes irritable, the nervous system depressed'. Nevertheless, he regarded five or six years as the limit of European endurance to the pestiferous climate of India.[87]

Although neither hill stationing nor the process of acclimatisation by 'fire' died out, it became increasingly clear in the light of new knowledge about bacterial transmission, that public health and sanitation could decrease the toxicity of the tropics. Pure water, better sewerage, the eradication of vectors, and a proper understanding of the role of insects in promoting infection could all help to elevate European health in India. The sanitary revolution also necessitated a greater degree of intervention in native hygiene, since the indigenous population was increasingly seen as a reservoir of filth and infection from which the tentacles of contagion could

[86]Report on the Sanitary State of the Army in India. p. xxxv, lxxxii.
[87]Fayrer. *On the Preservation of Health.* pp. 11, 19 & 25.

spread to the islands of pristine European sanitation.[88] Transport improvements allowed quicker communication of information and personnel, but also increased the dissemination of disease. The fear of importing epidemics along with colonial raw materials added weight to the argument for extending medical aid and control to the native community.[89] Hence, not only was the provision of sanitation humanitarian, it was vital for securing the physical prosperity of the colonial servants, and the economic vitality of the Empire itself.[90] Disease, endemic and epidemic, damaged productivity, organisation and military strength and, in addition, the competitive arena of nineteenth century imperial politics associated high death rates with poor colonial management. True imperial power was denoted by an ability to conquer both land *and* mortality.[91] Therefore, the late nineteenth and early twentieth century era saw a surge of intervention in public health, albeit piecemeal and concentrated mainly in economic and administrative strongholds. Rural populations were less of a threat to the colonial network and were largely left out of the equation, except when famine and disease resulted in a lack of agricultural labour.[92] Such diverse motivation pushed the state Government to institute measures for the control or eradication of disease. The vista of legislation encapsulated a Contagious Diseases Act, a smallpox vaccination act, an act facilitating the compulsory confinement of lepers, and a host of plague controls that ranged from forcible quarantine and house-to-house searches by the military, to compulsory vaccination and rat eradication.[93] Nevertheless, true sanitary reform in

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[88]Arnold. *Imperial Medicine and Indigenous Societies.* p.13.
[89]Arnold. *Imperial Medicine and Indigenous Societies.* p. 14.
[90]Report on the Sanitary State of the Army in India. p. lxxiv; Report on Sanitary Measures in India, (1888-9). p. 875.
[91]Arnold. *Imperial Medicine and Indigenous Societies.* pp. 14-15.
[92]Arnold. *Imperial Medicine and Indigenous Societies.* p. 15.
[93]Harrison. *Public Health in British India.* pp. 74-5; Arnold, D. 'Smallpox and Colonial Medicine in Nineteenth Century'. Arnold. *Imperial Medicine and Indigenous Societies.* pp. 45-62. p. 60; Kakar, S. 'Leprosy in British India 1860-1940: Colonial Politics and Missionary Medicine'. *Medical History.* Vol. 40, (1996). pp. 215-230. p. 221; Catanach, I J. 'Plague and the Tensions of Empire: India 1896-1918'. Arnold. *Imperial Medicine and Indigenous Societies.* pp. 149-171. pp. 153, 160, 162 & 165. The Contagious Diseases Acts 1877-1895 were aimed at limiting venereal

the western image was not enforced in India. This was partly due to financial constraints and administrative mismanagement, but also reflected the intransigence of the native population to European intervention and the unwillingness of the imperial administration to seize the initiative. Instead, sanitary legislation was permissive and piecemeal, and the only real beneficiaries were the military, since they were able to enforce hygiene within the cantonments.[94]

A primary focus of sanitary activity was the provision of filtered water, which received a further boost when the water-borne theory of cholera was accepted in the 1890s. Comprehensive and systematic public health schemes were rare.[95] Certainly, the water supply in India was a source of potential contagion, with even the military cantonments relying on the traditional system of wells and water carriers - a system that Florence Nightingale found 'perfectly absurd'.[96] Prior to 1890, the construction of waterworks was exclusively centred in the major towns and a few rich 'mofussil' areas. For example, in Calcutta a piped water supply was introduced in 1869, although it catered predominantly for the wealthy European sector of the city.[97] However, Harrison finds a post-1890 prioritisation of the water supply in most large Indian towns, with expenditure financed by rates and

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disease by the compulsory medical examination of prostitutes. Vaccination against smallpox was made compulsory by the State in 1880, and lepers were required to be confined in asylums from 1895. Initial attempts to control the plague in Bombay and Poona centred on re-enacting the Hong Kong martial laws used in 1894, but this proved unpopular. Inoculation was used in the Punjab in 1902, but was abandoned when a batch of vaccine became contaminated and caused several deaths from tetanus. Killing a plague-ridden rat causes the fleas to jump host and infect the human population, so rat eradication, advocated in 1907, was only effective if all the vermin could be exterminated and, therefore, required long-term financial and legislative commitment. Plague mortality remained very high, and appears to have gone into decline because of alterations in the plague bacillus and the increasing immunity of the vector population rather than any scientific or legislative measures instituted against it.

[94]Harrison. *Public Health in British India.* p. 233.

[95]Klein, I. 'Death in India 1871-1921'. *Journal of Asian Studies.* Vol. 32, (August 1973). pp. 639-659. p. 651.

[96]Report on the Sanitary State of the Army in India. p. xliii; Nightingale. *Notes on Hospitals.* p. 153.

[97]Harrison. *Public Health in British India.* pp. 66, 68 & 206; Headrick, D. *The Tentacles of Progress.* (Oxford, 1988). pp. 157-9.

authorised loans. Since house connections were expensive, public hydrants were the preferred method of distribution.[98] The 1889 Village Sanitary Act empowered villages to levy a tax for sanitation purposes, but this had little effect on the sanitary status of villages and western impact in rural areas continued to be minimal.[99] Public health initiatives in India were tentative and persuasive, and were designed to facilitate a gradual process of 'civilisation' without forfeiting the confidence of the indigenous population. Thus, the schemes were left to the municipal authorities who had to levy the urban and rural populations for the funds to establish water supplies, sewage disposal and drainage systems. A singular lack of funds, insufficient legislative support, and a lackadaisical population meant that sanitary progress, especially in rural areas, was negligible.[100] Native customs regarding bathing and cremation were a further impediment to sanitary provision, and the potential infringement of cultural traditions was undoubtedly responsible for some of the antipathy to sanitary reforms, as was the distrust provoked in response to any policy pursued by the Imperial overlords.[101] Urban sanitation schemes were more prolific, although not always wholly successful,[102] while in the rural hinterlands,

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[98]Klein. 'Death in India'. p. 651; Headrick. *The Tentacles of Progress*. p. 159; Harrison. *Public Health in British India*. p.182 & 194. The Ripon reforms in 1880 placed the responsibility for public health in the hands of the municipalities and local boards. The Dufferin Administration which followed (1884-8), pursued a more forward, interventionist policy in terms of public health, while simultaneously curtailing expenditure in other areas of public works, and the resolutions of 1887 included the provision of grants-in-aid for sanitation and the establishment of sanitary boards.

[99]Harrison. *Public Health in British India*. p. 194.

[100]Harrison. *Public Health in British India*. pp. 180 & 192.

[101]Harrison. *Public Health in British India*. p. 173; Headrick. *The Tentacles of Progress*. p. 153. The issue of 'caste' pollution was potentially fatal to the introduction of public health systems. Latrines once used were forever polluted and therefore unusable by those of good caste, and because public toilets were, perforce, cleaned and maintained by sweepers or untouchables, they were necessarily intrinsically polluted. Rivers could be used for water supply and sewerage without ever becoming *ritually* polluted or polluting. The sacred water of the Ganges, for instance, was always pure, no matter what effluent had gone into it.

[102]Harrison. *Public Health in British India*. p.178; Klein. 'Death in India'. p. 651. For example, the Bombay sanitation scheme which piped water from the hills to the town, but was irregular, insufficient in quantity, (providing less than 15 gallons per head in 1868), and dubious in quality, particularly in the hot weather when it was visibly impure. Another problem was the universal emphasis on water supply rather than drainage, which led to the influx of gallons of water without adequate drainage facilities to carry it away. The sub-soil became sodden with excess water and 'sullage', which was in itself a health hazard and a source of noxious effluvia.

traditional well and water-carriage continued to serve.[103] In 1894, Joseph Fayrer was still advising all Europeans to filter and boil their water, and this practice was still necessary even by the 1930s.[104] The European strongholds exhibited the greatest degree of westernised sanitation, and this provided further evidence of the fragile and illusory quality of British control in India.

INDIGENOUS MEDICINE

Indian medical systems had a heredity every bit as ancient and venerable as the Greek heritage of western medicine. Ayurvedic texts date back to the sixth century BC and developments are believed to have been contemporary with Greek medicine, while the Unani system of medicine was incorporated after the Muslim invasions of the twelfth century AD.[105] By the nineteenth century, the two practices were harmoniously intermingled with Unani medicine predominating in cities and among the wealthy elites, and Ayurvedic traditions remaining strongest in the rural areas and among the poor.[106] Both systems subscribed to the humoral tradition, which connected disease to an imbalance in the elements of bile, mucus and breath, and therapy relied on the restoration of equilibrium in the body.[107] Surgery was conservative and non-invasive, although couching for cataract had been done for centuries and the Ayurvedic school pioneered lithotomy and exquisite skills in

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[103]Masters, J. *Bugles and a Tiger.* (London, 1956). p. 157. Even in the 1930s, John Masters describes the average native women as living without water or sanitation, boiling drinking water and using potassium permanganate to clean fruit.
[104]Fayrer. *On the Preservation of Health.* p. 30; Masters. *Bugles and a Tiger.* p. 157.
[105]Porter, R. *Cambridge History of Medicine.* (Cambridge, 1996). p. 203; Laderman, C. 'A Welcoming Soil: Islamic Humoralism on the Malay Peninsula'. Leslie, C and Young, A. (eds.) *Paths to Asian Medical Knowledge.* (Berkeley, 1996). pp. 272-288. p. 276; Bloom, B and Murray, C. 'Tuberculosis: Commentary on a Reemergent Killer'. *Science.* Vol. 257, (August, 1992). pp. 1055-1064. Unani medicine was actually Greco-Islamic, and based on the same Galenic medical concepts which formed the foundations of western medicine. Bloom and Murray suggest that these Indian texts contain the first clinical descriptions of pulmonary tuberculosis, although this heritage was obscured by the adoption of the term 'phthisis' for the condition which was of greek derivation.
[106]Patterson, T J S. 'Science and Medicine in India'. Corsi, P and Weindling, P (eds.) *Information Sources in the History of Science and Medicine.* (London, 1983). pp. 457-475. p. 464.
[107]Patterson. 'Science and Medicine in India'. p. 461.

cosmetic surgery, well before such practices were known in Europe.[108] Pharmacology was based on plants and minerals, including some metals, and medicines were concocted according to the properties associated with the original substance.[109] Hakims (Unani) and Vaids (Ayurvedic) practised medicine throughout India, and were the first source of relief for the Indian native. The gulf between western and native medicine did not open until the mid-nineteenth century, prior to which both had relied on the same humoral pretexts and understanding of disease, although western therapeutics had tended toward the more heroic measures of purging, bleeding and cupping. However, with the emergence of modern science and the developments in biomedicine and bacteriology, western practice abandoned the old tradition of humoral conjecture and entered into a new phase which centred on clinical therapy and investigation.[110] Indian medicine became a source of derision and condescending ridicule, but also served as a focus for exhibiting Western superiority. The juxtaposition of ancient healing rituals with modern scientific method and accoutrements, provided the Europeans with ample and visible proof of their dominance over the 'backward' natives; while the prospect of taming the tropical environment gave added conviction to the European ascendancy.[111] Ross, writing in 1923, reiterated the earlier optimistic sentiment that western science could conquer both man and nature.[112]

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[108]Porter. *Cambridge History of Medicine.* p. 203. Lithotomy and rhinoplasty were introduced to Europe in the sixteenth century.

[109]Patterson. 'Science and Medicine in India'. p.463; Obeyesekere, G. 'Science, Experimentation and Clinical Practice in Ayurveda'. Leslie and Young. *Paths to Asian Medical Knowledge.* pp. 160-176. p. 166. These included heating and cooling properties, for example. The use of metals was borrowed from the Siddha system of medicine which was also of ancient origin and common in South India.

[110]Harrison. *Public Health in British India.* pp. 40-1; Porter. *Cambridge History of Medicine.* p. 95.

[111]Arnold. *Imperial Medicine and Indigenous Societies.* p. 7; Anderson. 'Disease, Race and Empire'. p. 65; Harrison. 'Tropical Medicine in Nineteenth Century India'. p. 316.

[112]Ross. *Memoirs.* p. 44.

The native view of western medicine was more complex and ambiguous. Designed as a tangible expression of benevolent patronage, it was often seen as an extension and manifestation of colonial power and, in some cases, was regarded as a harbinger of hidden evil. Some colonial schemes such as forcible vaccination, the contagious diseases legislation and the plague controls established in Poona, simply reinforced this negative image, and the association of the military with medicine deepened suspicion still further. In fact, IMS physicians represented the majority of the medical establishment in India, the only non-military doctors being the missionaries and such independents as came to establish themselves in the major towns or private projects. Government hospitals were under the control of civil surgeons, who were attached to the IMS and could be called up for military service at any time.[113] Military and medical controls intertwined to emphasise the dominance and control of the white man in the tropics, and the indigenous inhabitants were unsurprisingly cautious about accepting treatment at the hands of the conquerors. Philip Darby argues that the heavy and visible use of the military strong-arm was part of a colonial strategy to inspire obedience and loyalty to the Crown Government. Racial stereotyping infused British policy with the belief that the indigenous population would respond only to government in the Eastern tradition of autocracy and despotism. Thus, the role of the military must be paramount.[114]

Nevertheless, many of the Indian elite and urban hierarchy prized European medical care and viewed western medicine as a status symbol.[115] Hence, the response of the

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[113]Arnold. *Imperial Medicine and Indigenous Societies.* p. 19; 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.* Vol. 68, (1994). pp. 29-66. pp. 31-2; Thornton. *Memories of Seven Campaigns. passim.*

[114]Darby, P. *Three Faces of Imperialism: British and American Approaches to Asia and Africa 1870-1970.* (New Haven, 1987). p. 39.

[115]Sangwan, S. 'European Science and Technology 1757-1857'. *British Journal for the History of Science.* Vol. 21, (1988). pp. 211-232. p. 214; Harrison. *Public Health in British India.* p. 232. The western educated, pro-European groups championed the cause of sanitary reform in towns, but their enthusiasm yielded little in the face of the apathy or ambivalence of the urban poor and the vested interests of the rate payers and property owners in the cities.

native was not easily categorised, varying from time to time, place to place, caste to caste. Even in the 1950s, Indian villagers exhibited an ambivalence to western medicine, regarding Government doctors as avaricious, neglectful, insulting and dishonest, and acceptable only as a last resort. Serious trauma alone drew them to consult an alien medical system, and this attitude was almost universally prevalent in the colonial era. Only when all real hope was gone and native medicine had been exhausted, would the western practitioner be called in.[116] This wariness sprang from an innate distrust of the colonials coupled with a lack of faith in the potency of European medicine, and was further enhanced by the significant expense and instinctive fear of alien practices and instruments. However, Charles Leslie maintains that much of the reluctance to abandon traditional healing emanated from cultural familiarity. Ayurvedic systems were part and parcel of the Indian cultural heritage, the philosophy behind the treatment was understood and the patient, therefore, followed the advice. Western doctors were plying an alien trade. Modern, scientific method wielded complicated apparatus and an array of glistening metallic instruments which appeared frightening to the native, while the premise behind the treatment was incomprehensible. Thus, the advice was often ignored.[117] Nevertheless, western therapeutics did find a niche in Indian society and this is evidenced by various factors including the establishment and sponsorship of western women's hospitals by Eastern businessmen; the use of Government dispensaries and civil hospitals by the natives; and the willingness of Indians to serve in these medical establishments, albeit in lesser grades.[118]

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[116]Sangwan. 'European Science and Technology'. p. 217; Kakar, D N. *Primary Health Care and Traditional Medical Practitioners.* (Delhi, 1988). p. 9.

[117]Leslie. 'Interpretations of Illness: Syncretism in Modern Ayurveda'. Leslie and Young. *Paths to Asian Medical Knowledge.* pp. 177-205. p. 177.

[118]Arnold. *Imperial Medicine and Indigenous Societies.* p. 20; Klein, I. 'Death in India 1871-1921'. *Journal of Asian Studies.* Vol. 32, (August 1973). pp. 639-659. p. 639; Harrison. *Public Health in British India.* pp. 88-9. Harrison quotes the figures for the Bengal dispensaries which numbered 61 in 1867, with 17 000 in-patients and 318 895 out-patients. By 1900, there were over 500 dispensaries treating over 50 000 in-patients and 2 296 617 out-patients. David Arnold suggests that the recruitment of Indian sub-assistants was part of a deliberate Government policy designed to

European attitudes to indigenous medicine had not always been dismissive and intolerant. The East India Company had courted indigenous physicians, and early travellers to India had learned much about the botany and pharmaceutical properties of local flora from native medicine men. Indeed, prior to 1800, when transport was slow and imported medicine expensive, local medicine had represented a vital source of therapeutic care for the European traders, and there had been a recognition that native medicinal craft would be better acquainted with local maladies. This attitude had, however, as much to do with commercial and economic considerations as cultural magnanimity, since encouraging an interchange of ideas fostered friendly feelings among the natives, which was highly beneficial to trade.[119] However, the East India Company's liberal plurality suffered a reversal in the 1830s, with the closure of the vernacular schools and the institution of a positive attempt to subvert indigenous culture with western learning.[120] Orientalism, which had sought to incorporate new aspects of western scientific knowledge into indigenous medicine and science, withered as the western civilising mission took root.[121] Prior to the Grant Committee reforms, the British and European attitude to Indian medicine had been one of interest and limited admiration, although it was the antecedents of Indian culture that were deemed laudable rather than the contemporary condition of indigenous science.[122] In the western view, native medicine had degenerated from the ancient roots of venerable tradition to an accumulation of superstition, fatalism

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make the Government dispensaries and hospitals appear less alien and, therefore, more acceptable to the native public. Arnold, D. 'Public Health and Public Power: Medicine and Hegemony in Colonial India'. Marks, S and Engels, D. (eds.) *Contesting Colonial Hegemony: State and Society in Africa and India.* (London, 1994). pp. 131-151, p. 150.

[119]Patterson. 'Science and Medicine in India'. pp. 465 & 467; Arnold. *Imperial Medicine and Indigenous Societies.* p. 11.

[120]Leslie, C. 'Interpretations of Illness'. p. 178; Patterson. 'Science and Medicine in India'. p. 468. The Bentinck reforms in 1833 led to the closure of all the native colleges and, after 1835, there was no official support for native medicine.

[121]Leslie. 'Interpretations of Illness'. p. 178. The orientalists had also sought to revive the Ayurvedic spirit.

[122]Harrison. 'Tropical Medicine in Nineteenth Century India'. p. 303.

and outdated practices; and while western medicine had entered an era of biomedicine and clinical science, indigenous healing had stagnated and had little to offer in terms of modern therapy.[123] The cultural gap was already yawning with the advent of bacteriological science and clinical investigation, but the Mutiny in 1857 soured relations with the indigenous population to such an extent that all things Indian became tainted, and the Europeans increasingly drew back into cultural apartheid.[124]

However, whilst western perspective was certainly overly dismissive and unappreciative of some of the finer healing arts, the Ayurvedic tradition in medicine had undoubtedly faltered in the course of progress. The reasons for this were largely cultural and closely related to the development of religious tradition and the caste system. Entrenched by the fifteenth century, the caste system led to a division between the intellectual and the technical, moving medicine into the academic sphere and divorcing it from practical enquiry. Thus, although Hindu physicians had studied human anatomy through dissection before even the Greeks, this branch of investigation vanished from the medical texts through the dual influence of religious dogma and 'superstition'.[125] Surgery had become a lost art, practised only

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[123]Harrison. 'Tropical Medicine in Nineteenth Century India'. p. 307 & 313. James Johnson was a voluble exponent of this philosophy, finding much to admire in the ancient Indian practices, but little of benefit to modern medicine other than the odd nugget of useful folklore.

[124]Harrison. 'Tropical Medicine in Nineteenth Century India'. p. 317; Patterson. 'Science and Medicine in India'. p. 469. The first official pharmacopoeia of India was not produced until 1868, and was a compilation of all the information in the British pharmacopoeia that might be of use in India, with a few token products of local origin that had proven their efficacy to western science. Equally significant were the improvements in transportation which lessened the travelling time between Europe and India to such an extent that the importation of drugs had become decidedly less expensive and troublesome by mid-century. This meant that reliance on local products was no longer the necessity it had been in the early days of Empire.

[125]Patterson. 'Science and Medicine in India'. p. 464; Sangwan. 'European Science and Technology'. p. 215; Rao, M S. 'The History of Medicine in India and Burma'. *Medical History.* Vol. 12, (1968). pp. 52-61. pp. 53-4. Not only had Ayurveda comprised anatomical study by dissection, it had also included specialised instruction in pathology, pharmacology, physiology, aetiology, climatology, therapeutics and surgical procedures. The use of statistics to analyse knowledge had been practised, and operations such as tonsillectomy, anal fistula, obstetric procedure, venesection and ligation of blood vessels had all been described and taught.

by a few families who had inherited the tradition and handed it down from father to son in strict secrecy. Caste too, played a role in the decline of surgery, since contact with blood was a ritual defilement for the higher castes, and it had been among the high caste groups that the early surgeons had been found.[126] Religious prejudice against touching the corpse emasculated the study of anatomy and physiology by direct practical observation; while the study of medicines and drugs, vested in the hands of the priests, became so suffused with superstition that charms and spirit healing gradually replaced the cultivation of drugs and herbs from local flora.[127] The decline of Indian medicine, therefore, gave some credence to the European assessment of the retardation of scientific growth in India. However, in the second half of the nineteenth century, the supercilious complacency of the West blinded them to some of the valuable skills and knowledge retained in the ancient traditions of healing. Nor was the technological and scientific advancement of the European invaders lost on the Indians,[128] and some Indian writers castigated their countrymen for failing to pursue scientific understanding and for abandoning the intellectual traditions of Sanskritic learning.[129] When the new era of 'modern' scientific understanding dawned on the western stage, the distance between Ayurvedic and European medicine increased immeasurably. Nevertheless, there was an unreciprocated willingness among native physicians to learn from alien science, albeit with the eventual intention of incorporating the tenets into traditional healing. Hence, even today, traditional Ayurvedic doctors attempt to marry humoralism with

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[126]Patterson. 'Science and Medicine in India'. p. 466.

[127]Rao. 'History of Medicine'. p. 55.

[128]Sangwan. 'European Science and Technology'. p. 214. Although until mid-century western medicine was still tied to humoral concept, surgery had not disappeared as it had from the Ayurvedic tradition and these skills provided novelty and provoked admiration during the first phase of contact.

[129]Raychaudhuri, T. 'Europe in India's Xenology: The Nineteenth-Century Record'. *Past and Present*. Vol. 137, (1992). pp. 156-182. p. 164. Raychaudhuri quotes Akshaykumar Datta, writing in 1870, who mourned the loss of Hindu scientific heritage and yearned for the emergence of great scientific thinkers from the sub-continent, whilst fearing that the native intellect was inadequate to produce any such phenomenon.

biomedicine.[130] Others, who were not traditional hakims or vaids, pursued European medicine in order to assume the status of physicians within the colonial framework.[131]

The East India Company's vernacular colleges had fostered cultural plurality and exchange, but when the new era of Imperial administration was inaugurated, these were supplanted with European style institutions purveying scientific learning in the form of western standard teaching. Imperial dogma adhered to the picture of a non-technological, non-scientific culture of India, and laid heavy stress on the backwardness of native industrial techniques. However, whilst some western technology and scientific advances were undoubtedly beneficial, there was a complete unwillingness to acknowledge that indigenous techniques and tools were sometimes the most appropriate and best adapted for the given task.[132] For example, although the indigenous wooden plough was denigrated and deplored by the 'progressive' westerners, it was actually perfectly adapted for the soil, not too heavy for the oxen, and did not require the expenses of purchase and costly repair. Equally, the native antipathy to metalled roads sprang not from irrational xenophobia or reactionary prejudice, but rather reflected the fact that Indian cattle were rarely shod and hence went lame on the hard roads.[133] However, the fallacy persisted that the natives were both backward in learning and incapable of developing scientific reasoning, and they were variously stigmatised as 'mere children' in comparison to the maturity of European progress or even as being innately deficient in terms of scientific intellect.[134] To some extent this view was

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[130]Leslie. 'Interpretations of Illness'. p. 205.
[131]Sangwan. 'European Science and Technology'. p. 218.
[132]Sangwan. 'European Science and Technology'. p. 227. Western technology and method brought the cultivation of tea, hemp and flax crops to India, which were adapted and adopted by the native farmers and yielded good, successful crops.
[133]Sangwan. 'European Science and Technology'. p. 227 & 232.
[134]Raychaudhuri, T. 'Europe in India's Xenology'. p. 175; Kumar, D. 'The Culture of Science and Colonial Culture, India 1820-1920'. *British Journal for the History of Science.* Vol. 29, (1996). pp.

shared by members of the Indian population, and the popular newspapers and journals expressed definite concern about the status and direction of Indian education.[135] Unlike the British, however, they had no doubt that the *ability* was there, but felt that the techniques of Indian instruction lacked the necessary capacity to facilitate the development of modern scientific skills and understanding. Indian education had been traditionally centred on the spiritual and artistic with the emphasis lent to philosophy and literature, whilst the study of scientific reasoning had been abandoned.[136] Thus, by mid-century, there was a veritable campaign among the natives to reclaim their scientific heritage by using European learning as a springboard.[137] Ironically, by the end of the nineteenth century, concern was being voiced over the loss of Indian *artistic* culture, such as jewellery, wood-carving, carpentry, metal-work, cabinet-making and pith-work, all of which had declined in the face of cheap European imports and the promotion of European art.[138] Nevertheless, the imperial government was happy to provide basic technological education to the native, thereby infiltrating European standards and

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195-209. p. 197.; 'Racial Discrimination and Science in Nineteenth Century India'. *The Indian Economic and Social History Review*. Vol. 19, (1982). pp. 63-82. pp. 63, 69 & 74. A paper read to the Ethnological Society in London in 1866 talked of the mental inferiority of the Asiatic race; the head of the Geological Survey of India referred in 1882 to the intellectual bankruptcy of Indians; and the Viceroy in 1891 observed that original scientific research demanded mental and physical qualifications not apparently found in races bred in the tropical climate to the same degree as those born in northern climes.

[135]Kumar. 'Racial Discrimination and Science'. pp. 67-8. Journals such as 'Somprakash' decried Indian study of science as 'negligible' and the learning of native medical students as 'bookish'.

[136]Headrick. *The Tentacles of Progress*. p. 308; Raychaudhuri. 'Europe in India's Xenology'. p. 164. Raychaudhuri lists the attitude and expression of Akshaykumar Datta, Jambhekar and Rammohan Roy who argued that Ancient India had boasted great thinkers who were capable of achieving success of the European scale and model. However, the traditional Sanskritic focus on religion and philosophy had led to a culpable neglect of practical scientific enquiry in the intellectual tradition. Rammohan deplored the stagnation of Indian science which he regarded as synonymous with pre-Baconian European science, and Datta condemned Sanskritic heritage as being suffused with the taint of error and superstition.

[137]Raychaudhuri. 'Europe in India's Xenology'. p. 165; Kumar. 'The Culture of Science'. p. 197; Kumar. 'Racial Discrimination and Science'. p. 64. Kumar attests to the willingness of the natives to entertain western teaching, quoting a Reverend Long who, in 1842, likened Calcutta to Oxford and Cambridge.

[138]Kingscote, G. 'The Decline of Indian Taste'. *The Nineteenth Century*. Vol. 29, (February 1891). pp. 288-297. *passim*. Mrs Kingscote noted that even the Indian exhibitions held in England showed not *Indian* artwork, but poor Indian imitations of modern European art.

loyalties into indigenous culture;[139] although it was neither happy nor willing to extend the cultural beneficence to the higher grade posts and qualifications.[140]

All aspects of colonial strategy relied on the subjugation of the native to the European ascendancy, and this was reflected in the provision of education and opportunity within the colonial sphere. Whilst willing to provide technical and even higher education in some areas, the Imperial administration operated a clear and rigid hierarchical scheme in terms of employment, based intrinsically on racialism.[141] The inaugural address given by Lord Rosebery at Glasgow University expressed precisely these sentiments, talking of the principle of ascendancy and relative subordination which underpinned the predominance of race and the operation of Imperialism itself. Thus, European scientists and administrators retained the higher grade posts, the supervisory roles and the governing stature, and

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[139]Sangwan. 'European Science and Technology'. pp. 216-8; Kumar. 'Racial Discrimination and Science'. p. 64. Initially, the colonial administration had been wary of trying to establish European education in India, fearing it would cause suspicion and hostility or even stir up unrest. However, Indian interest in European scientific learning prompted a re-evaluation of this attitude, especially when some of the Calcutta populace established an Anglo-Indian school for the teaching of western science. By 1835 the East India Company had begun establishing European model teaching, but early plans to promote the study of western literature and language were thwarted by the insistence of the natives that they be instructed in scientific disciplines.

[140]*Census of India*; (1921) Vol. I, Part I, p. 288. For example, in 1921, of the persons employed by the Railway Department, 83% of the officer or highest grade posts were held by Europeans, and 37% of the highest paid subordinate posts were also held by Europeans or Anglo-Indians. 77.6% of the Indians employed held the lowest ranked posts with the least remuneration. Similarly, in the Telegraph Department, 96.9% of Europeans employed were in the top three echelons, compared to only 9% of the Indian employees. 72% of the supervisors were European. 66% of the supervision, direction and clerical offices in industry were in the hands of Europeans (excluding agriculture, mining, leather and wood-work).

[141]Kumar. 'Racial Discrimination and Science'. p. 63; Adeloye, A. *Dr James Africanus Beale Horton: West African Medical Scientist of the Nineteenth Century*. (Pittsburgh, 1992). pp. 2-6; 23-26. In Africa in the mid-nineteenth century, the British Army had experimented with training natives as medical officers because of the high mortality rates among Europeans in West Africa. These men trained in London as M.Ds. However, even after two decades of service in the Army, they were not permitted to enter into the upper echelons of military rank and were paid at a lesser rate than their European counterparts. In 1863, it was decided not to repeat the experiment because it was not deemed acceptable for a black man to be in seniority over a white officer. From then on, all native medical personnel were put on a separate register, a different and lower pay-scale, and it was officially decreed that natives were 'never to be given seniority over even the most junior European'. This policy pervaded every echelon of the Colonial service.

the natives were permitted only to step as far as the first few rungs, being trained and designated as *sub*-assistant surgeons, *sub*-overseers, lower-grade mechanics, labourers and flagmen.[142] Nevertheless, access to education and learning galvanised several Indian students to pursue higher degrees, and some even went to Europe to attend University there. Qualification in all levels of science *was* possible and the examples of men such as the geologist, P N Bose, the physicist, J C Bose, the chemist, P C Ray, and the M.D., B N Bose proved that not only were Indians capable of attaining the highest standards, but that they could do so even in the face of institutionalised discouragement.[143] However, although access to the highest elements of education was technically possible, graduating to the higher grades in Government employment was a much more awesome proposition. The Imperial Government had no intention of extending equality of opportunity throughout the various offices of state regulated employment, and remained determined to reserve the top echelons for the white officers and bar even the best qualified Indian from rising higher than the 'appropriate' lower deck.[144] Throughout the period, racialism proliferated and even where Indians were employed alongside their European counterparts, their status was compromised by a pay differential. Indian servants received only two-thirds of the pay granted to Europeans.[145] The case of J C Bose was especially ironic. Knighted and honoured in 1903, Bose had campaigned loud and long for equal status and pay with his European counterparts; and yet that status, even if accorded, would still not have recognised his *exceptional*

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[142]Sangwan. 'European Science and Technology'. p. 231.
[143]Kumar. 'Racial Discrimination and Science'. *passim.*; Kumar. 'The Culture of Science'. pp. 203-4.
[144]Headrick. *The Tentacles of Progress.* p. 320; Kumar. 'Racial Discrimination and Science'. p.64; Power, H. 'The Calcutta School of Tropical Medicine: Institutionalising Medical Research in the Periphery'. *Medical History.* Vol. 40, (1996). pp. 197-214. p. 211. For example, even in 1915, the CSTM did not have any Indian professors. All the appointments were given, if not entirely to IMS men, then certainly to European contenders despite the clinical attainment and professional excellence of many Indian doctors.
[145]Headrick. *The Tentacles of Progress.* p. 320. In the Engineering Corps, the Indian subordinates received a salary of 60 rupees a month - a ninth of the salary of the covenanted engineers. These subordinates had received a university level education in engineering.

ability. Petitions to the Anglo-Indian Government merely resulted in comments about his conceit, and it was only after 1903 that he was admitted to the same pay scale. B N Bose suffered similar discrimination and despite holding a European M.D., was unable to acquire an appointment at the Assistant Surgeon level of the IMS. He was eventually admitted to the ranks in an uncovenanted position, with a correspondingly inferior salary.[146] There is, nevertheless, a danger of painting too bleak a picture of Colonial racial policy. There were those who recognised the skills and achievements of the Indian scientists, and who called for the establishment of better schools and the extension of equality to the natives.[147] Their reasoning was not, however, purely altruistic since, just as the hard-line colonials feared promoting natives and thereby giving them too much power and presumption, so the more liberal-minded viewed the continued subjugation as a potential encouragement to the fermentation of intellectual restiveness.[148]

The underlying motive for the policy of racial segregation and occupational apartheid was the precarious position of British rule in India. The white population represented a superficial presence and only by retaining a hold on all the power and technology could they secure their tenure. Hence the reluctance to extend even educational equality to the native, lest they achieve technological competence and

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[146]Kumar. 'Racial Discrimination and Science'. p. 77.

[147]Kumar. 'Racial Discrimination and Science'. p. 64. For example, in 1845, the lieutenant-governor of the North-West Provinces wanted to train Indians as assistant executive engineers, but was overruled by the governor-general.

[148]Kumar. 'Racial Discrimination and Science'. pp. 65 & 69. The case of two of the early Indian graduates in medicine gives ample illustration of the hard-line attitude. In 1848, the two students returned from England with M.D.s and the MRCS, and the Council of Education deemed them qualified to the grade of Professor at the Calcutta Medical School. The Government of Bengal opposed this on the grounds that it would inflame the ambition of the natives if these two were given choice assignments, and so they were posted to a medical college hospital and a dispensary respectively. This attitude was still current in 1882 when some of the natives of Bengal requested that a scholarship be established to allow two students to go to England to study chemical and textile manufacture. They were refused and took their appeal to the Viceroy, Lord Ripon, urging that since a scholarship was available to study agriculture, why not one for chemical and textile work. Rather than accede to this logic, the Government very nearly abolished the agriculture scholarship since it had given rise to such inflated ambition.

with it, the reins of progress. Thus, the education provided was theoretical rather than applied, with a heavy emphasis on mathematics. A discipline perfect for producing junior surveyors and numerate apprentices for the various Indian Surveys, but useless for providing a well-developed, comprehensive scientific understanding on which career specialisation could be built.[149] The racial discrimination and institutionalised inequality was rationalised by reiterating the theories of racial degeneracy, whereas the real purpose behind the Imperial policy was to handicap the native and thereby forestall any inadvertently bestowed access to the means of revolution or independence. Hence, the Surveyor-General in 1891 admonished the liberal thinkers that it 'was suicidal to admit that the natives can do any one thing better than [the Europeans]. They should claim to be superior in everything and only allow a native to take a secondary or subordinate part'.[150] Kumar argues that the hard-liners were an extremist faction, counterbalanced from the earliest days by men such as Bentinck, who foresaw a gradual, very gradual, liberalisation of education and employment. He maintains, however, that although mainstream opinion was neither progressively liberal nor rabidly conservative, the hard-liners were generally of more eminent standing and so exerted greater influence upon the policy makers.[151] While there is probably much truth in this, the unswerving continuity of the policy of subjugation argues a greater concurrence among the European authorities than would be expected, if policy were really being dictated by a smattering of extremists. The assumptions of racial inferiority, the still sour taste of treachery invoked by the Mutiny, and the belief in Empire pervaded European consciousness and made the conservative approach both acceptable and logical to many. Those who urged a more liberalised outlook, promoting the cause of better education and the possibility of higher career

149Kumar. 'Racial Discrimination and Science'. p. 72.
150Kumar. 'Racial Discrimination and Science'. p. 80; Chaudhary, V. *Imperial Policy of the British India, 1876-1880.* (Calcutta, 1968). p. 348.
151Kumar. 'Racial Discrimination and Science'. p. 80.

attainment, were primarily motivated by pragmatism rather than human fraternity, regarding career inducement as vital in preventing unrest or revolution and in persuading natives to enter Government service and to work industriously in their subordinate roles.[152] The natives themselves were not blind to the underlying Imperial philosophy, and the Indian press vilified Curzon's veto of an Indian University of Research as a deliberate attempt to 'discourage higher education lest the people should get scientific education and thereby come in the way of the English exploiters of this country'.[153] More than this, the lack of opportunity for advancement inevitably blunted the enthusiasm of the native scholars to vigorously pursue scientific learning or to attempt research. Without the possibility of attaining eminence, however great the talent, it would be surprising if the Indian doctor, physicist, engineer, chemist or geologist were even half as diligent as a European technician for whom promotion was at least a likelihood. Even in 1904, there was a reluctance to extend native entrance to even the junior grades of the engineering corps, and this career negativity was undoubtedly to blame for the perceived lack of scientific brilliance among the indigenous population. A lack that, ironically, underlined the British claim to racial superiority.[154]

Not all natives were keen to embrace European science and technology though, and there is evidence that it could carry a heavy price. Alfred Crosby and others have promulgated a now-popular theory of 'biological imperialism', by which is meant the transference of European native disease to the virgin Empire.[155] David Arnold suggests that too great an emphasis has been given to this theory and that the impact of western disease cannot be reliably quantified, since it was typically only *after*

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[152]Kumar. 'Racial Discrimination and Science'. p. 69.
[153]The quotation is from 1904 'Vrittanta Chintamani' reproduced in Kumar. 'Culture of Science'. p. 20; Headrick. *The Tentacles of Progress*. p. 336.
[154]Kumar. 'Racial Discrimination and Science'. p. 69, 72 & 81.
[155]Crosby, A. *Ecological Imperialism: The Biological Expansion of Europe 900-1900*. (Cambridge, 1986). *passim*.

imperial invasion that any records were kept. Equally, trade and conquest between Asia and other disease ecologies had been occurring for centuries prior to the European occupation. However, even Arnold allows that some degree of alien infection was probable, pointing to the migration of bubonic plague as an example. The plague entered India from Hong Kong in 1894, courtesy of the Imperial trade routes.[156] Whether western imperialism brought new disease to India is questionable, but there is no doubt that the introduction of technology and transport improvements facilitated a breakdown of natural boundaries and speeded the transmission of native diseases across the sub-continent.[157] Hence kala azar, once found only in Jessore and West Bengal, followed the Imperial vanguard to Assam and laid waste the village populations. In the newly infected areas, the link was appreciated by the native villagers who christened the disease 'sakari bemari' or 'the Government disease'.[158] The asiatic cholera pandemics of the nineteenth century also owed their genesis to British technology and imperialism. The cradle of cholera lay in Bengal where it had loitered endemically probably for centuries, but the introduction of transport infrastructure and the constant movement of troops and traders breached the natural quarantine facilitated by foot or bullock migration, and released the *vibrio* into unprepared and unfamiliar territory. The universal dissemination of hitherto localised disease was not the only bounty granted by British transport improvements. The very infrastructure of the railways provided new habitats for mosquitoes to breed in, and thereby increased the prevalence of malaria in several areas. However, it was not only Indians who saw the potentially deleterious effects of modern technology. Improvements in shipping had facilitated swifter communication between England and India, and thus a faster transfer of personnel. This, in Joseph Fayrer's opinion, merely accentuated the difficulty of

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[156]Arnold. *Imperial Medicine and Indigenous Societies*. p. 5.

[157]Arnold subscribes to the theory that intensified Imperial activity resulted in epidemiological changes.

[158]Desowitz, R. *The Malaria Capers*. (New York, 1991). p. 39.

acclimatisation since 'the sudden change is itself a severe trial and, if incautiously undertaken, may lay the foundation of a chronic intolerance of the climate'.[159]

Agricultural improvements were an equally double-edged sword. Irrigation canals and the diversion of river courses resulted in the creation of the stagnant pools favoured by malarial mosquitoes and other parasitic vectors, while the same innovations deprived the riverain districts of their reliable and regular periods of flooding.[160] Epidemic disease was also given new impetus by the recruitment of labour for plantations and mine-work, since these schemes demanded a semi-urban concentration of people. The resultant over-crowding and inadequate sanitary provision yielded a perfect environment for the perpetuation of endemic disease, and the occasional ravages of epidemic infection.[161] Klein implicates economic factors in the spread of pestilence, such as the decline in the river trade following the transport revolution which left isolated, local communities starved of the means of survival and prey to the diseases of poverty.[162] Imperial apologists have traditionally held up the provision of western medicine as an untainted bounty of colonialism, but Arnold suggests that the net effect of western medicine may have been sufficient only to redress the balance of disease and mortality which had been disturbed by the other celebrated benefaction of Empire, technological 'improvement'.[163] This bleak view was appreciated by Mahatma Gandhi, who regarded all the products of Empire as pernicious. In his opinion, railways spread plague and impoverished the poor, and urbanisation was a sham.[164]

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[159]Arnold. *Imperial Medicine and Indigenous Societies.* p. 6; Fayrer. *On the Preservation of Health.* p. 11.

[160]*Census of India*; (1911) Vol. XIV, Part I, p. 53; Klein. 'Death in India'. p. 646. The problem of canal and railway infrastructure providing malarial habitat was recognised by the British in the 1920s, when malarial epidemics were tied to the construction of railway embankments. Road construction was similarly implicated since it interfered with surface drainage.

[161]Arnold. *Imperial Medicine and Indigenous Societies.* p. 6.

[162]Klein. 'Death in India'. p. 645.

[163]Arnold. *Imperial Medicine and Indigenous Societies.* p. 6.

[164]Raychaudhuri. 'Europe in India's Xenology'. p. 180.

However, western medical exponents would and do argue that the techniques and expertise brought to India by the British were of incalculable value. This is hard to dispute, since the European experience had taught the value of clean water, sanitation, vaccination and proper birthing procedure. Nevertheless, neither the dissemination of the knowledge nor the instigation of appropriate protocol was easily achieved. The initial indifference of the Imperial Administration to the native populace had made them careless of indigenous health and, when an assumption of responsibility *was* admitted, the wariness engendered by the Mutiny made the Government of India reluctant to attempt coercive measures. Thus, the ensuing plethora of legislation was *ad hoc*, piecemeal and permissive. Nevertheless, even without the logistical, political and economic constraints that made wholesale sanitary improvement in India unattainable and even inconceivable, there was another ideological barrier to encroachment. The culture of India was already abundantly endowed with medical tradition and folklore, and however superstitious, backward or ill-conceived the basis for the practices might have seemed, they were as tenaciously guarded as any aspect of indigenous philosophy. To try and uproot or destroy aspects of that culture, even with the most altruistic of motives, was to offend the religious heart of society. A proceeding that could result in unforeseen damage and potentially fatal consequences. One such salutary example was the issue of smallpox vaccination.[165]

Europe had progressed from inoculation to the safer and more reliable Jenner vaccination technique and when it became clear that smallpox was a rampant threat in India, the Government decided to institute native vaccination.[166] The Indian

[165]The issue of smallpox and vaccination has been touched on in the previous chapter, but the importance of the cult of Mariamman is the crux of the issue here.
[166]Arnold, D. 'Smallpox and Colonial Medicine in Nineteenth Century India'. Arnold. *Imperial Medicine and Indigenous Societies.* pp. 45-65. p. 45.

tradition of inoculation was, however, intricately entwined with the religious observation of the cult of Mariamman, Goddess of Smallpox.[167] The significance of the Mariamman ritual was that it promoted inoculation as a form of worship, thereby by-passing caste considerations and simultaneously affording protection from the scourge. Transference of bodily fluid from one to another was ritually contaminating, and yet it was not only permitted but demanded under the tenets of Mariamman. The Goddess supposedly inflicted pestilence on those who did not believe in her or show faith by the tribute of inoculation, while simultaneously protecting those who did.[168] The British, in the interests of progress, outlawed inoculation as a dangerous process and attempted to replace it with vaccination.[169] However, the vaccination procedure lacked the religious connotations of variolation and was therefore both an affront to Mariamman and a source of ritual contamination and caste defilement.[170] State sponsored Imperial medicine attempted the extirpation of inoculation which, since they were unable to enforce vaccination, left generations of children unprotected and facilitated a high annual harvest of smallpox deaths and a reservoir of continual infection. The residual disease also threatened the white population.[171] Imperial medicine, thwarted by Mariamman, was similarly shackled by other religious conventions, such as the antipathy of the native Hindus to water-based medicine. This custom was also of

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[167]Trawick, M. 'Death and Nurturance in Indian Systems of Healing'. Leslie and Young. *Paths to Asian Medical Knowledge.* pp. 129-159. p. 132; Hankin, E H. 'Bhowani - the Cholera Goddess'. *The Nineteenth Century.* (October 1896). *passim.* She was also known as Sitala in the South. Other diseases had similar goddesses, such as Bhowani, the Goddess of cholera.

[168]Trawick. 'Death and Nurturance'. Leslie and Young. p. 132.

[169]Trawick. 'Death and Nurturance'. p. 132. Inoculation or variolation is more dangerous than vaccination, since it uses discharged matter from the pustules of an infected person as the 'vaccine'. In western vaccination, the lymph was attenuated and was therefore not able to cause the disease in the person being vaccinated, although it still accorded immunity to the recipient.

[170]Arnold. 'Smallpox and Colonial Medicine'. p. 49.

[171]Arnold. 'Smallpox and Colonial Medicine'. p. 61; Read, M. *Culture, Health and Disease: Social and Cultural Influences on Health Programmes in Developing Countries.* (London, 1966). pp. 33-4. Inoculation did continue in many areas, and in 1961 a survey revealed that 55.8% of Indians still believed that Mariamman or Mátá, the Goddess of Smallpox, was responsible for the affliction and relief of the disease.

caste origin, since strict Hindus could not imbibe water that had come into contact with any person of a lower-caste. To be acceptable, water had to be drawn from a caste well and carried in a caste pot, neither of which could be touched by the ritually inferior. Traditional water-carriers were normally of low-caste, while the British were without caste status and consequently defiling.[172] Legislation for plague protocols suffered similar hindrance from native religious philosophy, with the attempt to promote extermination of rats during the visitations of plague frustrated by considerations of karma. The Hindus and Jains destroyed rat-traps and refused to countenance the killing of even infected rodents.[173]

Tenacious allegiance to traditional and religious practices was not the only source of constraint between western medicine and the indigenous population. The wariness of the natives towards their new overlords was heightened by the lower European death rates in later years, and by the relative immunity of the British to the plague. Far from seeing the extension of western medical aid as a benevolent gesture or an expression of regal concern, the natives viewed 'national' campaigns and health programmes with a suspicion bordering on paranoia. Rumour, evasion, resistance and even violence, such as the plague riots of 1902, all hampered the imposition of western medicine on indigenous culture and coercive efforts merely heightened the tensions. House searches, forcible hospitalisation, incineration of infected materials, segregation camps and lazarettos were all used by the British authorities as tools of disease control. However, these methods not only incited open violence, but also led to the concealment of the sick and an ingrained reluctance among the populace to attend clinics or seek help.[174] David Arnold enumerates the various villainous purposes ascribed to British attempts to institute

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[172]Sangwan. 'European Science and Technology'. p. 39.
[173]Klein. 'Death in India'. p. 654.
[174]Arnold. *Imperial Medicine and Indigenous Societies*. p. 20.

national vaccination programmes, as evidence of the mistrust rife among the indigenous peoples. Vaccination was variously believed to be a method of religious conversion,[175] a means of selecting those later to be used in imperial sacrificial ritual, a precursor to further infringement of liberty or an imposition of tax, and even as a method to find and murder the Indian saviour child sent to free the country from the heel of oppression.[176] Such fundamental distrust of British intentions was inevitably fatal to attempts to apply disease control on a wide scale, even if the economic and political will had existed. Nor was negative reaction to health protocols a particularly 'imperial' phenomenon, since even in Britain the precautions against cholera in 1832 had led to widespread rioting as rumour circulated about the murderous intentions of the aristocrats.[177]

The net effect or benefit of western medicine is open to debate, and it is impossible to determine whether the provision of dispensaries, hospitals, vaccines and urban sanitary engineering altered the underlying mortality rate. Some western doctors saw the task as hopeless, believing that even if, by some miracle, malaria could be eradicated, the mortality from another endemic disease, such as typhoid, would merely rise to fill the vacuum.[178] However, efforts were made to adapt medical aid to the native constitution, and the heroic measures deemed so effective in white men were tempered for the less physically robust brown-skinned peoples.[179] Yet despite good intentions and a retarded assumption of responsibility for the indigenous population, most evaluations of imperial medicine find it wanting in effect. This may have been the combined result of inadequate economic provision, lackadaisical

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[175]The desecration of caste and denigration of religion intrinsic in the vaccination procedure was perceived as a wily manoeuvre to destroy faith and thereby gain converts to Christianity.
[176]Arnold. *Imperial Medicine and Indigenous Societies.* pp. 56-7. The latter tale is one which corresponds to the Christian story of Herod's search for baby Jesus, and which may have been borrowed from missionary teaching and recycled by the Indian rumour mill.
[177]Durey, M. *The Return of the Plague.* (Dublin, 1979) p. 17.
[178]Curtin. *Death by Migration.* pp. 67-8.
[179]Harrison. 'The Tender Frame of Man'. p. 82.

political will, and impossible logistics, but it also reflected the impotence of even the most advanced scientific nations to counter, therapeutically or preventatively, the overwhelming forces of disease.

The disease ecology of India, as stated above, offered the European visitor both familiar afflictions and exotic pestilence, and it is important to understand how the vista of illness differed in proportion and intensity from that of Europe. The picture was not static, changing from time to time, and place to place, and various writers then and since have exhibited a difference of opinion on what proportions of mortality should be ascribed to which scourge. John Masters, writing of his experiences in India during the 1930s, described a three tier landscape of disease with dysentery, malaria, sores and typhoid looming large in the foreground; typhus, rabies and pneumonia in the middle distance; and lurking menacingly on the horizon, the constant spectres of bubonic plague, cholera and smallpox.[180] Diseases changed focus throughout the period, sometimes descending to the foreground or retreating into the middle distance and beyond, and the picture varied widely from place to place. Some diseases were rare or unknown in one area, but rife and fatal in another. For example, kala azar, which was rampant in North East India, appeared sporadically in Gujerat and the Himalayan foothills, and was virtually unknown in the North West and in the South.[181] Other diseases, such as cholera, ebbed and flowed in epidemic waves, whilst the frightful visitations of plague and influenza were sporadic and devastating.[182] Malaria remained a perpetual menace and could erupt into epidemic proportion, although India was predominantly the home of *plasmodium vivax* or tertiary benign malaria, and cases of *plasmodium*

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[180]Masters. *Bugles and a Tiger*. p. 157.

[181]Cook. *Manson's Tropical Diseases*. p. 627. Nor can this localisation be accounted for by an absence of the sandfly vector population, since the North West boasted a prevalence of sandfly fever - a relatively benign viral infection.

[182]Plague arrived in 1896 and remained epidemic until at least 1918. Influenza arrived in India in 1919 as part of the post-war pandemic. Both were occasional and massively fatal.

falciparum numbered only one in every three admissions. Nevertheless, since immunity is strain related, infection by the *vivax* variety offered no protection against *falciparum*.[183] Judgements vary about which diseases represented the greatest threat and occasioned the highest mortality. Patrick Manson waxed lyrical about the dangers and deadliness of malaria, and this is a view shared by Curtin, who confers primacy to malaria as the greatest single killer in the nineteenth century tropical world.[184] However, he also accords intestinal disease a central role in India, especially stressing typhoid incidence in the 1890s which rose both relatively and actually.[185] Curtin's study is exclusively focused on the British military in India and does not seek to examine the wider national picture, so extrapolating his data may not prove accurate. Nevertheless, contemporary commentators seem to offer some verification. For example, Violet Jacob writing from India in the last decade of the nineteenth century described 'enteric' as 'the scourge of this country'.[186] Joseph Fayrer noted the endemic nature of malaria which he regarded as 'the cause of more sickness and invaliding than almost all other diseases combined'; whilst James Thornton was impressed by the devastating effects of malarial fever, cholera and dysentery in the course of his 'seven campaigns'. Eliza Priestley writing in 1889, classed India among the regions cursed with the highest levels of malaria intensity.[187]

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[183]Curtin. *Death By Migration.* p. 139; Desowitz. *The Malaria Capers.* p.227. These statistics are based on the hospital admissions of the early twentieth century and provide, therefore, a limited picture. Deliberate infection by vivax malaria did afford an effective treatment against syphilis since the fever occasioned a temperature rise in the body sufficient to kill the syphilitic sporozites and halt the disease. Malariotherapy was widely used in the late nineteenth and early twentieth centuries, and even today has some adherents.

[184]Manson. 'The Necessity for Special Education'. p. 843; Curtin. *Death By Migration.* p. 62. Manson maintained that malaria was a greater scourge 'than the tubercle itself'.

[185]Curtin. *Death By Migration.* p. 101 & 152.

[186]Anderson, C (ed.) *Violet Jacob: Diaries and Letters from India 1895-1900.* (Edinburgh, 1990). p. 89. Enteric is a generic term for what is now termed typhoid.

[187]Fayrer, J. *Recollections of My Life.* (London, 1900). p. 61; *On the Preservation of Health.* p. 13; Thornton. *Memories of Seven Campaigns.* p. xviii & *passim*; Priestley, E. 'The Mysteries of Malaria'. *The Nineteenth Century.* Vol. 25, (June 1889). pp. 852-867. p. 867.

Writers and historians since have also tended to reiterate the impact of malaria, according similar attention to typhoid and intestinal disorders, plague, cholera and smallpox. However, while the first hand impressions given by contemporaries do appear to verify the nature of tropical disease described by Curtin, statistical data provide ~~revenue is~~ a more objective tool of discovery. Klein notes the resolutely slow population growth in India 1871-1921, and ascribes it not to low fertility or the basic birth rate, but to the devastating effect of massive mortality.[188] Population statistics for India[189] exhibit a crawling rise from 120 million in 1800; to 130 million in 1845; 175 million by 1855; and 194 million by 1867.[190] The first census claims a population of 206 million in 1872; 253 million by 1881; and 287 million in 1891.[191] Census returns show the figures for 1901, 1911, 1921 and 1931 at 294, 315, 318 and 352 million respectively.[192] Overall population increase in the period was about 0.6% per year, but while Davis asserts that this rate is not particularly abnormal in relation to world growth, it is significant given the birth and death rates quoted for the period.[193] Thus, the birth rate in India was estimated by Davis to average 47.6 per 1 000 for the period 1881-1931, while the death rate remained above 40 per thousand from 1871-1921, only dropping to 36.3 in the decade 1921-31.[194] The population growth was, therefore, stunted not by a low birth rate, but by

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[188]Klein. 'Death in India'. p. 640.
[189]These are based on estimate until 1871, and then on the national census.
[190]Davis, K. *The Population of India and Pakistan.* (Princeton, 1951). p. 25. These are the estimated figures, adjusted by Davis, prior to the first census in 1871-2.
[191]*Census of India*; (1921) Vol. I, part I, p. 57. Davis re-estimates these figures to take into account added territory and improved enumeration over the period to 1901. His estimates are 255, 257 and 282 million respectively for 1872, 1881 and 1891.
[192]*Census of India*; (1921) Vol. I, Part I, p. 57; *Census of India*; (1931) Vol. I, Part I, p. 34; Davis. *Population of India.* p. 27. Davis' recalculations put the figures at 285, 302 and 305 millions for 1901, 1911 and 1921, but he allows the 1931 figure to be correct.
[193]Davis. *Population of India.* pp. 26-8 Davis does stress that the Indian population had achieved a steady and significant rise from 1921, and also emphasises that the seemingly low *rates* of growth represent a large actual growth, since the base of population is so huge. Nevertheless, prior to 1921, the rates of growth were sporadic and occasioned only slight rises in the overall rate.
[194]Davis. *Population of India.* pp. 69 & 36; Klein. 'Death in India'. pp. 640-1.

a high death rate.[195] Indian mortality was deemed statistically excessive and the causes of death were variously enumerated.

Davis identified three decades of negligible population growth and attributed the phenomenon to the incidence of the two major famines and the influenza pandemic.[196] Klein's statistical villains are plague, malaria, cholera, dysentery, tuberculosis, the influenza pandemic and famine.[197] While malaria was responsible for one death in every five,[198] Klein believes tubercular mortality to have been seriously undercounted. He indicts the respiratory disease category as occasioning one death in seven, with dysentery achieving an almost equal lethality. Cholera accounted for ten percent of the mortality, while plague reaped an even heavier harvest during its deadly sojourn.[199] Influenza reached India in 1918 and, in the course of the two year cycle, attacked 125 million people and killed an estimated 12 or 13 million. The deaths were, however, under-reported due to the economic, social, administrative and political paralysis occasioned by the extreme levels of infection, and the estimate is therefore conservative. A corrected estimate puts the figure nearer to 18 million, and even this is regarded as cautious.[200] The mortal cost of influenza outstripped that of two decades of plague by at least 2 million lives.[201] Nevertheless, plague was an extremely potent hazard and combined in deadly concert with famine in the last years of the nineteenth century and the early decades

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195*Census of India*; (1931) Vol. I, Part I, p. 7. The Census report concludes that the birth rate in India was much higher than in Europe, although the death rate too was significantly elevated.
196Davis. *Population of India.* p.28. The famines of 1876-8 and those during the 1891-1901 decade. The influenza pandemic of 1918-19 affected the 1911-1921 figures.
197Klein. 'Death in India'. p. 639.
198Klein. 'Malaria and Mortality in Bengal 1840-1921'. *The Indian Economic and Social History Review.* Vol. 9, (1972). pp. 132-160, p. 135; Davis. *Population of India.* p. 53. Davis suggests that 100 million Indians suffer from malaria every year.
199Klein. 'Death in India'. p. 643.
200*Census of India*; (1921) Vol. I, Part I, pp. 13-14; Mills, I D. 'The 1918-1919 Influenza Pandemic: The Indian Experience'. *The Indian Economic and Social History Review.* Vol. 23, (1986). pp. 1-40, p. 10.
201*Census of India*; (1921) Vol. I, Part I, p. 14.

of the twentieth century. Famine conditions prevailed between 1897 and 1901 with varying degrees of severity, whilst plague was an unwelcome and universal presence in India from 1896 until 1918.[202] The crop reaped by plague was demonstrably grim, with an estimated 11 million deaths in two decades. Locally it appeared equally devastating, taking over 2 million lives in the Punjab alone between 1901 and 1910, a figure representing almost a quarter of all deaths in the region for the whole decade.[203]

The fever category, however, represents the greatest loss of life in every census, with malaria undoubtedly the major component.[204] The 1911-1920 figures show 51 792 029 fever deaths, representing a rate of 21 per 1 000. The actual death rate from all causes was 33.9.[205] The following decade exhibited a similar predominance, although the overall mortality was less severe with 37 167 598 fever deaths, according a death rate of 14.93 per 1 000.[206] Fever mortality surpassed all others, but the 1931 census also gave considerable emphasis to the respiratory diseases, tuberculosis in particular, and to dysentery and diarrhoea. The respiratory disease category accounted for 5 percent of the total mortality 1920-1929, with dysentery and diarrhoea combining to claim just over 3 percent.[207] The statistical

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[202]Klein. 'Death in India'. p. 653. The plague observed no localised boundaries and spread from Bombay, east to Calcutta, west to Karachi, south to Mysore, Hyderabad and Madras and north to the Punjab and Oudh.

[203]*Census of India*; (1911) Vol. I, Part I, p. 41.

[204]Davis. *The Population of India*. p. 53; Klein. 'Malaria and Mortality'. p. 134. Davis reckons one-third of the fever category is ascribable to malaria. Klein reckons it a little higher at 40%. Enteric fever or typhoid may have accounted for a significant proportion of the fever statistic too.

[205]*Census of India*; (1921) Vol. I, Part I, p. 61. By comparison, smallpox accounted for 841 186 deaths, and plague 3 080 541. A certain percentage of the influenza deaths may have been included in the fever statistic, since diagnosis was not always accurate.

[206]*Census of India*; (1931) Vol. I, Part I, pp. 7 & 39. Plague accounted for 1 292 328 deaths and smallpox for 733 317. The actual death rate was 26.14. The decline in the rate was ascribed to the lack of famine and the improvement in prevention and treatment of cholera, plague and kala azar, the latter having been controlled by a new therapeutic technique using antimony which could halt an epidemic.

[207]Calculated from *Census of India*; (1931) Vol. I, Part I, p. 266. The corresponding actual deaths were 3 432 540 from respiratory disease and 2 186 390 from dysentery and diarrhoea. Fever represented 60 percent of all deaths.

picture does, therefore, support the empirical impression, although allowance must be made for the undue emphasis laid on epidemic visitations, such as the plague.[208] Philip Curtin has also identified some curious anomalies in the recorded mortality, such as the high proportion of liver disease which he ascribes to a prevalence of unrecognised amoebic dysentery.[209] Dysentery occurs in two forms, bacilliary and amoebic. Bacilliary dysentery causes intestinal cramps, bleeding and copious evacuation, while amoebic dysentery is caused by parasitic invasion of the liver and has much more serious long-term consequences.[210] George Ballingall was the first to note the slow onset and less acute symptoms of tropical dysentery in 1818, and he insisted that two types of dysentery existed, one which affected the intestine and another which invaded the liver. The amoebic pathogen was identified in 1870, but the causative role of the amoeba continued to be disputed, even by Manson, until clinical proof and differentiation of dysenteric form was made in the second decade of the twentieth century.[211] Curtin also implicates beri-beri as a causal factor in the proliferation of dropsical patients in the tropics. Manson had warned in 1897 of the need for tropical doctors to be aware of this disease, since it was easily mistaken as a clinical presentation of heart-disease.[212] Beri-beri was, however, more likely to

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[208]Nineteenth century European cholera was over-emphasised in terms of it's statistical importance, whilst tuberculosis was underrated. Similarly, tuberculosis in India was taking a considerable toll and yet was given less emphasis than smallpox, cholera and plague, because it was more insidious.
[209]Joseph Fayrer had drawn attention to the 'tendency to liver complaints' in India in 1894. Michael Adler purports that cause of death ascribed to liver disease and valvular heart disease could actually have been the result of underlying syphilitic infection. He also suggests that misdesignation was sometimes deliberate, since syphilis was still regarded as shameful and morally repugnant. Fayrer. *On the Preservation of Health.* p. 19; Adler, M. 'The Development of the VD Services'. Farrow, S (ed.) *The Public Health Challenge.* (London, 1987). pp. 100-111. p. 102.
[210]Curtin. *Death By Migration.* p. 77.
[211]Balfour. 'Some British and American Pioneers'. p. 196; Harrison. 'The Tender Frame of Man'. p. 72; Kiple. *World History of Disease.* p. 570. Manson repudiated amoebic involvement in dysentery as late as 1909.
[212]Manson. 'The Need for Special Education in Tropical Medicine'. p. 843; Curtin. *Death By Migration.* p. 77. Curtin estimates a death rate of 0.2 per 1 000 among British troops in the tropics from beri-beri related illness.

manifest itself as a localised phenomenon among people living under similar dietary conditions.[213]

Death in India resulted from a plethora of infectious, parasitic and nutritional disease, exacerbated by poor living conditions and inadequate diet. The economic status of individuals had a direct effect on health, and death rates for the poorest classes and lowest castes were very much higher than those of the wealthier groups. The Census of India underlined this in 1931, stating that 'the primary cause of the abnormally heavy mortality experienced by the masses in India is traceable to very low economic status'.[214] By the end of the nineteenth century, mortality statistics indicated a clear correlation with economic disparity. For example, the figures for Bombay in 1887 disclose a death rate of 31.7 per 1 000 among the Moslems, 20.8 per 1 000 among the Hindus, and only 17.2 per 1 000 for the Europeans. European habitats tended to exhibit the cleanest and most salubrious environment, and the Europeans themselves benefited from a varied and plentiful diet. Consequently, they succumbed less readily to endemic and epidemic disease.[215] Indeed, the European community as a whole displayed a relative immunity to the ravages of plague in 1896, which almost certainly derived from better living conditions, more stringent sanitation arrangements and better nutrition.[216] The rat infested, crowded squalor of the bazaars and towns provided the best circumstances for the transmission of plague, while a debased level of nutrition induced a lower capacity

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213*Census of India*; (1931) Vol. I, Part I, p. 267.
214*Census of India*; (1931). Vol. I, Part I, p. 150.
215Report on Sanitary Measures in India (1887-8). pp. 849 & 859. Reports from Madras were similarly indicative of economic status, showing the annual European mortality reaching only 76, compared to the Mohammedans 2 225 and the Hindus 12 820.
216Official returns in 1898 illustrate the apparent immunity of the Europeans, although it was recognised by medical officers at the time that this was due to better living conditions and a readier willingness to come forward for inoculation, rather than any innate racial impunity. The Bombay returns for May, June and October 1897 and January and February 1898 show 5 706 deaths among the native population and only 5 European deaths. Cases among Europeans were equally rare, amounting to only 6 over the same five months. Further Papers Relating to the Outbreak of Bubonic Plague in India. *Parliamentary Papers*; (1898) Vol. LXIII, pp. 485, 486, 494, 504 & 506.

for immunological response.[217] Influenza proved similarly race specific, affecting the Europeans to a significantly lesser degree than the natives. However, the economic gauge registered further gradations with high caste Hindus suffering less severely than their lower caste neighbours.[218] Nevertheless, of all the causes likely to elevate mortality, famine was the most notorious. A frequent visitor to nineteenth century India, the contribution of famine to the death toll was both direct and indirect. Michelle McAlpin argues that there were actually very few deaths from starvation and that the majority of mortality was disease related. David Arnold, however, insists that deaths attributed to starvation were low because the Government in India deliberately mis-classified them, in order to avoid censure or damage to the Imperial image.[219] Starvation notwithstanding, epidemic disease ran rampant during famine months as people became less resilient to disease and crowded together in places where food was distributed. Not only did malaria, cholera, smallpox and dysentery run rife, but the crowding in the relief camps produced conditions ideal for the spread of diseases like tuberculosis, which only manifested themselves in later years. Hence, the famine provided a legacy of death and disease long after the food shortages had eased.[220] Even limited price rises triggered an upsurge in the death rate, and a correlation was noted between economic hardship and the level of malarial incidence and mortality. Equally in

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[217]Bubonic plague is spread by the rat flea, which leaves the rodent host only when it dies. Rats living in close proximity to humans allow the transmission of the vector from rodent to human, and thus the plague bacillus infects the population. The poorest, least sanitary, most crowded areas will necessarily be more likely to attract rats and thus, the plague. Bubonic plague is not readily communicable except via the flea vector, although the pneumonic variety is air-borne and invariably fatal.

[218]Mills. 'The Influenza Pandemic'. p. 33. European death rates from influenza in Bombay were 8.3 per 1 000; the caste Hindu death rate was 18.9 per 1 000; and the low caste Hindus died at a rate of 61.6 per 1 000.

[219]McAlpin, M. *Subject to Famine: Food Crises and Economic Change in Western India 1860-1920.* (Princeton, 1983). p. 51; Arnold, D. 'Social Crisis and Epidemic Disease in the Famines of Nineteenth Century India'. *Social History of Medicine.* Vol. 6, 3. (December 1993). pp. 385-404. p. 387.

[220]McAlpin. *Subject to Famine.* p. 51; Arnold. 'Social Crisis and Epidemic Disease '. pp. 385 & 403. Malaria, smallpox, cholera and dysentery were the diseases particularly associated with Indian famines.

1918, influenza mortality was further heightened by famine and food shortage in several provinces.[221] Famine almost invariably resulted from the failure of the monsoon, since this was the sole source of water for agricultural purposes in many areas of India.[222] Nor was agricultural productivity ever elevated significantly above subsistence standards, so that stocks of surplus grain were both limited and quickly exhausted.[223] India's occupational index reflected the undeveloped or primary state of her economy, with wages frequently being paid in grain and the population showing a high level of categorisation in the agricultural classes.[224]

The veracity of imperial claims to beneficence can be eternally debated, particularly in the light of the irreconcilable accounts of colonial impact. For example, the transport networks and irrigation schemes are represented by some as the salvation of Indian agriculture, since they opened up India, decreased the incidence of famine, and provided for swift relief if famine was *not* averted. Others argue that the schemes were directly implicated in the spread of infectious disease and the rise in malarial incidence. The value of undertaking a microcosmic study is that it can

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[221]Klein. 'Death in India'. p. 655; Mills. 'The Influenza Pandemic'. p. 34. United and Central Provinces were declared famine areas, while food shortage affected Gujerat, Rajputana, Orissa, Bombay, Deccan and Berar.

[222]McAlpin. *Subject to Famine.* p. 21.

[223]Arnold. 'Social Crisis and Epidemic Disease'. p. 388.

[224]Arnold. 'Social Crisis and Epidemic Disease'. p. 389; *Census of India*; (1921) Vol. I, Part I, p. 242. *Census of India*; (1931) Vol. I, Part II, pp. 206-217. Of the population registering an occupation in the years 1911, 1921 and 1931, 72%, 72% and 67% respectively were based in agricultural labour. 18.5%, 17.5% and 16.6% were classified in the 'preparation and supply of material substances', which category included food processing (rice pounding etc), preparation of textiles (cotton ginning, wool carding etc), metal work, pottery. It also included transmission of electricity, gas etc, transport construction and employees, and trade employment. Administration accounted for only 3.3%, 3.1% and 2.6% respectively, and included the army, navy, air-force and police, public administrators, religious officials and workers, the law, medicine, teaching and letter-writers, artists and scientists. The 'miscellaneous' group represented 5.6%, 6.1% and 13.7% of the workforce, and included all the ill-specified returns and the unproductive, such as inmates of asylums, jails and poorhouses, beggars and prostitutes and nameless others. The drop in the agricultural category in 1931 can be accounted for by the rise in domestic service. From 1.46% in 1911 and 1.44% in 1921, the domestic service category jumped to 7% of the total workforce in 1931, a rise of 5.6% which dovetailed almost precisely with the drop of 5.8% in the agricultural sector.

provide a snapshot of the colonial experience at one place and one time. Intricate detail and fully described examination are superimposed on a canvas already washed with the broader strokes of wider, national experience. The overview and sense of intent contained in central, national studies are of vital importance, but local studies can provide a different perspective on imperialism and offer a means to access the reality of the British civilising mission on the native people. Attempting such minute investigation on a grand scale would be both unfeasible and immensely time-consuming, but by building up a patchwork of local stories a similar effect can be obtained. The study of Ellen Farrer at Bhiwani is one such square of the patchwork. Through her experience, the reality of life and medical practice in India, the impact of western science on the local community, and the value of 'advanced' science can be assessed; and through her diaries and letters, it is possible to gauge the attitude of an ordinary European to race, caste, indigenous culture, the theories of acclimatisation and the role of Empire.

Bhiwani was a large town in the Hissar district of the British Territory of the Punjab. When Ellen arrived in 1891, the Territory as a whole comprised three cities, namely Lahore, Delhi and Amritsar; two large towns of over 50 000 inhabitants, namely Multan and Jullundur; and fourteen large towns of between 20 000 and 50 000 inhabitants. Of this latter group, Bhiwani town was the fourth largest, with a population of 35 487.[225] By 1911, this picture had changed slightly, with six towns registered in the upper category of large towns, and thirteen in the lower.[226] The Territory was largely divided between the Hindu and Muslim religions, which made up 92% of the population between them.[227] In terms of

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[225]*Census of India*; (1901) Vol. XVII, Part I, p. 31.
[226]*Census of India*; (1911) Vol. XIV, Part I, p. 33. These towns were Multan, Rawalpindi, Ambala, Jullundur, Sialkot and Ferozepore.
[227]*Census of India*; (1901) Vol. XVII, Part I, p. 169. In 1891, 40% of the population were Hindu, 52% Muslim, 7% Sikh. The Christians represented 0.2%. There were also a few Jains (0.1%), and a very few Buddhists (0.02%).

economic diversity, Hissar followed the national model of agrarian predominance, with agriculture being the main focus of the Hissar District occupational index. For example, 71% of the population was wholly dependent on agriculture in 1901.[228] Hissar was largely unirrigated, even in 1911, and was therefore heavily reliant on rainfall for water. The tahsil of Bhiwani[229] formed a particularly dry area of the District.[230] Famines were common in the Punjab, and the Hissar district was unsurprisingly and especially vulnerable to such occurrences. In the first decade of Ellen's residence in India, famine struck twice - in 1896-7 and again in 1899-1900. The first of these famines had been preceded by several years of good and plentiful harvest, thus enabling the population to weather the dearth without extreme distress. However, 1897-8 saw only a moderate crop yield, and a poor harvest in the following year left the population debilitated and unprepared to meet the second, more severe famine.[231] Since deaths were not directly attributed to starvation or famine, the only way to gauge the demographic effect of the famine is to contrast the population growth in the afflicted region with that prevailing in the unaffected districts. Thus, while the Punjab general rate of increase was just over 6%, the Hissar district population rate remained stationary and that of the Bhiwani and Sirsa tahsils decreased, a fact attributed to the impact of famine even by the cautious census officer.[232] Famine in the following decade began with a failure of the monsoon in 1901, and general food scarcity throughout the winter 1901-2. The district was hit by famine again in 1907-8, coinciding with the worst years of the

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228*Census of India*; (1901) Vol. XVII, Part I, p. 376. Figures calculated from the population figures on p. 2. 9% worked in Industry, and 4% in commerce. Just 0.9% were employed in a professional capacity.

229Tahsils were the sub-category collectorates within the District. Hissar had five - Hissar, Hansi, Bhiwani, Fatehabad and Sirsa.

230*Census of India*; (1911) Vol. XIV, Part I, p. 47. 93% of the cultivated land in Hissar relied on rain for water.

231*Census of India*; (1901) Vol. XVII, Part I, p. 52.

232*Census of India*; (1901) Vol. XVII, Part I, p. 72.

plague.[233] Mortality for the Punjab territory in the decade 1891-1901 was 32.5 per 1 000. In common with the national statistic, fever deaths accounted for 71% of the total at a rate of 23.9 per 1 000.[234] The indelible mark of plague elevated the death-rate for the following decade to an average of 43.9 per 1 000.[235] Plague deaths were significant, totalling 2 025 220, but fever still retained pole position with a recorded mortality of 4 503 761, representing just over half the total deaths.[236]

Dr Ellen Farrer worked in India from 1891 until 1933, principally in the tahsil of Bhiwani and initially in the town itself. She left from time to time on furlough, on retreats to the hill stations and on secondment to other hospitals, but in the main her field of battle was Bhiwani and Hissar. As described above, her initiation was something of a baptism of fire with the dual menace of plague and famine appearing shortly after her arrival and the constant menace of fever lurking insistently in the background. Ellen's contribution to famine relief, plague visiting and various preventative programmes against both plague and smallpox will be described below, as will her experience of native responses to western medical protocols and her own posture towards indigenous healing.

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[233]*Census of India*; (1911) Vol. XIV. Part I, p. 47 & 59. The Hissar population rose during this decade, but this was due to the return of many of those who had emigrated in the face of famine at the 1901 census, and who returned during the intervening period. Plague and malaria had been extremely destructive in the district.

[234]*Census of India*; (1901) Vol. XVII, Part I, p. 48.

[235]*Census of India*; (1911) Vol. XIV, Part I, pp. 40-1. 1907 saw the death rate rise to 62.1 per 1 000, an all time high for the province.

[236]*Census of India*; (1911) Vol. XIV, Part I, p. 41. Plague deaths were responsible for 22.9% of the total deaths for the decade, and smallpox accounted for 1.2%. The fever death rate is largely ascribed by the Census officer to malaria.

Chapter Four

THE FIRST BAPTIST ENVOY: ELLEN FARRER AND THE BHIWANI MEDICAL MISSION.

When Dr Ellen Farrer set sail for India in 1891, she was to be the catalyst of a new venture by the Baptist Missionary Society.[1] Although medical missions had become accepted and respected as a legitimate tool of evangelism and proliferated in India under the various banners of christianising brotherhood, the Baptists had been chary of establishing their own network. However, when Ellen approached the Baptist Zenana Committee with her MBBS and offer of service in 1891, Mrs Joseph Angus had little hesitation in accepting both her and the responsibility for inaugurating a new era of challenge for the Baptist Society.[2] Soon there was a steady trickle, if not a stream, of Baptist medical missionaries into India and China, most of them female. The first male medical missionary officially sponsored by the BMS was not sent to India until 1894, although he quickly achieved notoriety. Having grown accustomed to the co-operative insouciance of their early recruits, the Home Committee was inordinately shocked when Dr Vincent Thomas demanded a hospital to practice in.[3] The commitment to medical mission work was formalised by the BMS in 1901, when the Medical Mission Auxiliary was established under the direction of Dr Moorshead. This association sent deputations

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[1]French, W E. *The Gospel in India.* (London, 1946). pp. 100-103. The Baptist Missionary Society had begun women's missionary work in 1830, although it was not until 1854 that they actually moved into Zenana work. This began when the wife of a male missionary gained admittance to a Zenana and then extended such visits during her stay in Calcutta. This pioneering experiment was recognised in 1867 by the establishment of the Baptist *Zenana* Missionary Society and, in 1871, the BZMS sent out it's first independent or spinster recruit from England.

[2]Farrer, Ellen. 'The Story of Bhiwani' in *Fifty Years for Bhiwani Hospital: The Farrer Jubilee.* Baptist Missionary Society Publication, (London, 1941). pp. 3-11, p. 3.

[3]French. *The Gospel in India.* p. 80. The idea behind sending out fully trained medical personnel was that they would attract both the patients and the revenue with which to build hospitals.

to tour the mission fields and gain insight into the needs and capabilities of the dispensaries, hospitals and doctors, and also raised funds for the provision of modern instruments and up-to-date appliances.[4] By 1906, there were 17 Baptist medical missionaries world-wide, nine of whom were serving in the seven Indian Baptist mission hospitals.[5] By 1927, the numbers had increased to 36 doctors, operating in the 16 hospitals in India and China.[6]

Although the BMS only belatedly embraced medical mission work and, therefore, by-passed the period of justification and soul-searching, there was soon a deep concern among the Baptist missionaries that the spiritual agenda was being stifled by the overwhelming demands of medical practice. Hence, in a paper delivered to the World Missionary Conference, Reverend C E Wilson railed against the inadequate staffing of mission hospitals and dispensaries, which left the doctors with no time to dispense spiritual guidance and Christian teaching.[7] Much as the female medical pioneers had feared the subjugation of medicine to evangelism, so the Baptist theologians feared to see spiritual work subjugated to medical practice. Reverend Wilson castigated the practice of assigning one doctor to run each mission as 'almost an absurdity'; and while his intention was to champion the spiritual cause, his remarks nevertheless held pragmatic validity.[8] It was rarely possible for one doctor to manage even the normal medical work of a mission, since demand easily outstripped capacity in all mission hospitals. Furthermore, the absence of a second doctor allowed for no easy resolution of an unforeseen eventuality such as sickness, and precluded the efficient function of the hospital during the necessary furloughs

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[4]Farrer, Ellen. 'What the MMA has meant to Our Women's Medical Work'. *The Missionary Herald.* (1922). pp. 234-35. p. 235.
[5]Medical Mission Auxiliary. 'Medical Missions'. *The Missionary Herald.* (1906). p. 110; Farrer, Ellen. *Report to the Medical Mission Auxiliary.* (April, 1906).
[6]Medical Mission Auxiliary. 'Medical Mission Statistics'. *The Missionary Herald.* (1927). p. 96.
[7]Wilson, Rev. C. 'Medical Missions'. *The Missionary Herald.* (1911). pp. 229-233, 261-264. p. 264.
[8]Wilson. 'Medical Missions'. p. 264.

and holidays of the sole physician. Thus, if the doctor was incapacitated or absent, the hospital had no option but to close until she either returned or was replaced by a new physician. Bhiwani hospital was a prime example of this shortfall, being forced to close several times due to Ellen's illness or leave. On another occasion, Ellen was compelled to operate on two women in need of urgent surgery, despite the fact that she herself was suffering from mumps. The patients both survived without contracting the infection, but the attendant risks had gone far beyond what was deemed permissible in the properly staffed British hospitals, and amply demonstrated the need for a second physician.[9] Evidence of an attempt to redress the problem is provided by Ellen's statement in 1934, that 'for some years' it had been the policy of the BMS to station two doctors at each hospital, although intention is not always reflected in reality and the hazy inexactitude gives no indication of the longevity of the policy.[10] Nevertheless, Bhiwani itself was graced by a second physician on loan from the LMS as early as 1901, although it was 1904 before the BMS was able to send a second *Baptist* medical missionary to assist.[11]

The BMS was loath to limit its initial foray into medical missionary practice to one emissary, and Ellen was therefore accompanied to India in 1891 by the redoubtable Dr Edith Brown. Dynamic and forthright, Edith was to become an influential figure in missionary circles and although initially stationed at Palwal, she abandoned the medical mission a few years later to establish the cross denominational training school at Ludhiana. Ellen was destined for Bhiwani, where she remained in placid tenacity for the duration of her career. Once there, she re-opened the dispensary,

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[9]Farrer. *Fifty Years.* pp. 6-7. For example, the Dispensary had to close for eight months in 1897 whilst Ellen was on furlough, and again for a year from 1900-1901, when Ellen was invalided home.
[10]Farrer, Ellen. *The Medical Work of Missions.* (February, 1934). A lecture given to the Stewards Hall. Ellen gave figures for hospital staffing in India, noting that whilst 119 of the existing hospitals were staffed by two doctors, 146 were still run single-handed.
[11]Farrer. *Fifty Years.* p. 7. Miss Eleanor Shepheard of the London Missionary Society was loaned to the Bhiwani station partly in order to support Ellen, who was returning from convalescence in England, and partly to gain experience before establishing an LMS mission at Almora.

and later established a hospital which still stands today.[12] Located at the edge of the Rajputana desert, Bhiwani was a large town which prospered from commerce with a neighbouring native state. It was unchristianised and largely untouched by Imperial infiltration, contact with the European presence being limited to a mere handful of government officials.[13] The various missionary societies working for Christian enlightenment in India negotiated defined areas of influence among themselves, but, unusually, the station at Bhiwani was not located in Baptist 'territory'. It had been 'discovered' in 1886 by Baptist agents from Delhi, who had been travelling to the hereditary family seat of a Moslem Nawab to witness his ceremonial investiture. They broke their journey at Bhiwani, 106 miles from Delhi, and were there besieged by native gentlemen who requested that a mission be established in their town.[14] It seems somewhat ironic that a new venture for the Baptist crusade should have been undertaken far from any of the established centres of influence from whence help and support could have been procured, but nevertheless the station at Bhiwani was chosen for the new medical endeavour. This was perhaps due to the incessant pleas from Isabel Angus and Annie Theobald, who had established a mission and girls school there in 1887 and 1890 respectively. Part of their evangelical itinerary had embraced the public hospital, where they offered spiritual succour to those patients who were willing to receive it, and where they noted a summary lack of female patients. They deduced that the same strictures of purdah which curtailed the education of their female pupils, was responsible for restricting the access of native women to vital medical care.[15] All missions traditionally dispensed basic medicines, albeit cautiously, but Bhiwani had also benefited from the limited services of a local, Agra trained nurse. At the behest of Annie and Isabel, she began

[12]Eadie, Rev. W. 'A Small Woman with a Large Vision: Ellen Margaret Farrer, MBBS'. *Baptist Times*. (13 November, 1959). p. 1.
[13]Angus, Isabel. 'The Evolution of a Mission Station: Bhiwani'. *The Missionary Herald*. (1924). pp. 38-42. p. 41.
[14]Angus. 'Evolution of a Mission Station'. p. 40.
[15]Angus. 'Evolution of a Mission Station'. p. 40.

to run a small dispensary which provided rudimentary medical care to women from the surrounding area. By the time marriage claimed her in 1890, the dispensary had proven the magnetism of western medicine by drawing 13 000 patients in fourteen months. Ellen was sent to resurrect this dispensary.[16] Since Bhiwani lay outside the Baptist sphere of influence, it had been necessary to gain approval for the mission from the Society for the Propagation of the Gospel whose negotiated 'territory' encompassed Bhiwani.[17] The SPG raised no objection to the BMS presence there, having neither the resources nor inclination to establish themselves in Bhiwani. Indeed, their nearest representatives were located 35 miles distant by rail in Hissar and 50 miles distant at Rewari.[18] These SPG agents and the few Government officials based in Bhiwani embodied the entire European contingent in the area, creating a sense of isolation which continued throughout Ellen's time in India.[19]

The daughter of a minister, Ellen and her whole family regarded the church as both the spiritual and social centre of their lives, and her yearning for missionary work had 'grown up with [her] from childhood'.[20] It was actually her mother who fostered her evangelical ambitions and later encouraged her to pursue the study of medicine, stating that God had not blessed her with scholarly talent in order for her to do nothing with it.[21] Her mother also displayed exceptional perspicacity in urging Ellen to consider India as a place of service, long before the Zenana came

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[16]Angus. 'Evolution of a Mission Station'. p. 41.
[17]French. *The Gospel in India.* pp. 16-28. The fields under BMS influence were in Bengal, North India, Orissa, and South Lushai. In Bengal, the BMS had missions in 13 of the 30 districts, with the Baptist Headquarters in India located in Calcutta. In North India, they had stations in numerous towns and sites, including Agra, Delhi, Simla, Kasauli, Baraut, Patna and Palwal; Orissa was a coastal province, where the BMS had missions in 11 centres; and South Lushai, an isolated field, featured Assam.
[18]Angus. 'Evolution of a Mission Station'. p. 41.
[19]Angus. 'Evolution of a Mission Station'. p. 41.
[20]Farrer. *Fifty Years.* p. 3.
[21]Farrer. *Fifty Years.* p. 3.

into sharp focus as a target of philanthropic evangelism. At that time, female medical study in England remained limited to the portals of the London School of Medicine for Women and Ellen duly enrolled there in 1887, emerging four years later with an MBBS and her missionary zeal still intact.[22] However, despite her unwavering determination to pursue a missionary career in India, it was only *after* graduation that she approached the Baptist Zenana committee. Other evangelical societies offered guidance and instruction to prospective candidates during the course of their medical studies and some even granted small amounts of sponsorship, so it seems a little odd that Ellen did not even enquire about the spiritual attainments required by the BMS service. However, given that the Baptist Society did not have any medical missionaries in 1887, perhaps Ellen thought it wisest not to make her approach until she was able to lay her degree at their feet, along with her offer of service. Whatever the reason, once she had been accepted by the BMS, Ellen spent her remaining time in England trying to gain experience and improve her skills through post-graduate work. The need was especially paramount with regard to surgery, since the Bachelor of Surgery degree involved no practical work on live subjects, being limited instead to the supervised dissection of a dead body. However, post-graduates were licensed to perform on live cases and such practical experience was vital for those, like Ellen, who would shortly be expected to take sole charge of the entire surgical register of a new hospital. Unfortunately, experience of this nature was extremely difficult to acquire in 1890, since almost no hospital residency posts were open to women and even the Royal Free Hospital refused to countenance such appointments.[23] Instead, Ellen was forced to follow a somewhat itinerant programme, attending clinics at Great

[22]At that time the Bachelor of Medicine and the Bachelor of Surgery were separate qualifications.
[23]Farrer. *Fifty Years*. p. 3. The Royal Free would have been the logical place for women to receive post-graduate training, since it was the centre for clinical instruction at the LSMW. Ellen and her eight fellow graduates even sent a delegation to try and persuade the Royal Free to accept them as house surgeons or physicians, but they were rebuffed. Residency posts, even at the Royal Free, were not opened to women until 1901.

Ormond Street Hospital for Children, the Western General eye department, and the dentistry department at the Royal Free Hospital, in order to glean some precious proficiency before departing to India.[24] These peripatetic wanderings were the cornerstone of her preparation for Bhiwani, where she would have immediate and total responsibility for medical care and virtually no access to professional advice. Finally, she was able to negotiate employment at the Kentish Town Medical Mission, working every Thursday for two months as the sole female physician alongside three male doctors. She later described how patients would specifically request to be attended by her, the 'leddy doctor', which served to re-affirm her conviction that women doctors were a necessary and desired commodity. Similarly, when she was unexpectedly offered a four month placement as resident medical officer at the New Hospital for Women in Euston Road, Ellen encountered women from all over the country who had come to London purely in order to be treated by a member of their own sex. At neither Kentish Town nor the New Hospital did Ellen meet with any prejudice against female physicians among the patients, underlining the argument that the opposition to medical women was centred almost exclusively within the male dominated medical profession.[25]

Indeed, Ellen was wholly convinced of both the capability of women to compete on an equal basis with male physicians, and of the need for women to enter medicine in Britain as well as overseas. In her speech to the Baptist Union Assembly in 1891,[26] she recounted the case of a woman patient from the North of England who had been treated at the LSMW for a long-standing 'female' problem. Unable to bring herself to disclose the nature of her complaint to a male doctor, this woman had endured years of secret suffering before being able to take advantage of the services of a

[24]Farrer. *Fifty Years*. p. 3.
[25]Farrer, Ellen. 'Women's Work Among the Sick Poor'. *Paper given to the Baptist Union Meeting.* (Manchester, 1891).
[26]The first time a woman had ever been invited to speak to the Assembly.

'leddy' doctor. Her condition was simply and quickly resolved. This speech also elucidated Ellen's views on the character of female doctors, and she was quick to condemn the mischievous caricatures of the disappointed spinster and the unwomanly harridan. She claimed that there was no lack of womanliness among female doctors, and those who did lack the traditional feminine qualities had done so long before being exposed to the supposedly de-feminising study of medicine. Ellen also decried the logic of those who opposed female entry to medical school for candidates intending to practice in England, but who found it perfectly equitable for women to be 'de-feminised' by a medical course, if their purpose was to serve in India or China. This philosophy had been elaborated in the latter years of the struggle for equality in medicine, and was underpinned by the notion that female study of medicine could be countenanced for service overseas as 'doing evil that good may come'. Ellen roundly condemned this sophistry as being without foundation or spiritual legitimacy.[27]

Ellen was equally resolute when addressing the issue of training for medical missionaries, urging the vital necessity of proper, comprehensive education for those embarking on a medical career overseas. She acknowledged that the fierce domestic competition for posts and livelihoods permitted only those who had both registered credentials and exceptional skill and ability to succeed in England. This was not the case in India, where the demand so far outstripped the supply as to allow the extension of opportunities to those less than half-trained and wholly unfitted for the purpose. Ellen denounced the missionary societies who sent out such envoys, claiming that the days when such behaviour was excusable on the grounds that women had no access to medical education were over, and that there was no reason in 1890 to send any but the best qualified practitioners. Unlike her

[27]Farrer. *Speech to the Baptist Union.*

contemporaries in the medical hierarchy, Ellen's concern was focused on the patients who would suffer at the hands of these unprepared emissaries, rather than on the potential denigration of the female reputation in medicine. She stressed the isolated nature of the mission fields of India and China, where help, advice and an experienced eye were far away and the doctor was wholly reliant on her own skills. Of these skills, diagnostic ability was the most vital and an inadequately trained doctor would be unable to discern the serious implications beneath a simple presentation. Ellen reinforced her stance by quoting the example of an acquaintance who had gone to India half-trained, but had found her skills so deficient that she had returned as soon as possible to complete her training at the LSMW.[28] As stated earlier, the LSMW promoted the necessity of full medical education for those seeking employment overseas, but although Ellen was undoubtedly exposed to these arguments during her four year sojourn at the School, her arguments were sufficiently distinctive to acquit her of mere parroting. Her arguments centred around the impossibility of coping with the daunting professional isolation without a complete and first class training in the skills of medicine. The absence of guidance, verification and support made any inadequacy of knowledge and expertise more glaring and more dangerous than they would have been in a clinic, hospital or dispensary in England. However, as Ellen pointed out, in England the half-trained, unskilled semi-doctor would have no opportunity to obtain professional standing in the first place.[29]

In the course of this forthright speech, Ellen vouchsafed no opinion on the spiritual side of medical missionary work, claiming to have had no experience of direct evangelism. However, she concluded by saying that medical work offered a way 'to usefully and happily serve He who sent His followers out to preach the Kingdom of

[28]Farrer. *Speech to the Baptist Union.*
[29]Farrer. *Speech to the Baptist Union.*

God *and* to heal the sick', thus reiterating the reflective rationale of the late nineteenth century medical missionary movement.[30] The extension of spiritual enlightenment was not part of the work done at the Kentish Town Mission, and certainly did not form a part of the daily routines at any of the hospitals at which Ellen attended. Indeed, whilst Ellen's medical credentials were exemplary, her theological training and experience of evangelical mission work were virtually non-existent.[31] The BMS evidently belonged to the group identified by the World Missionary Conference as requiring nothing but 'missionary zeal' as a qualification for work as a missionary doctor. Although it is perhaps harsh to judge the BMS standard of spiritual training on the basis of their pioneer recruit, the veracity of this example would seem to be borne out by the words of Reverend Wilson two decades later. He berated the BMS for the lack of training provided for their medical missionaries, declaring that 'more must be done to give them that preparation which is required over and above their professional education in order to make them efficient missionary workers'. In particular, he thought they needed to 'master the language and understand the religious ideas of the people', and felt that the BMS was 'too eager that they should assume practice on their arrival in the field'. This eagerness, said Wilson, led to the sacrifice of the 'higher interest' and meant that the 'direct spiritual results were less than they would otherwise be'.[32] Ellen's preparation for her work as a medical missionary certainly appears to have been somewhat lackadaisical. She had no knowledge of the language or the land, she

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[30]Farrer. *Speech to the Baptist Union.*

[31]Ellen achieved the MBBS (first class) and during the course of her degree had gained certificates as a Dresser, Clinical Clerk, and in Midwifery. She had also 'attended courses of instruction in operative surgery and performed under supervision on a dead subject'. The comments of her tutors ranged from 'highly satisfactory' to 'performed extremely well'. Her references were equally laudatory. The first was from the Kentish Town Medical Mission which spoke of her 'efficiency, skill and gentle kindness', and the other was from James Berry RCS, surgeon at the New Hospital, who described Ellen as 'diligent and painstaking' and praised her for having taken 'full advantage of all her opportunities for clinical work'. Information from certificates and papers contained in the Farrer collection, held at the Angus Library, Regent's Park College, Oxford.

[32]Wilson. 'Medical Missions'. p. 264.

was untrained in theological guidance, and had no experience in management, all of which make her commitment to the venture more courageous. The BMS, for their part, furnished her with a list of necessary clothing which included six or more pairs of white cotton gloves and at least one bonnet.[33] Ellen continued to attend the clinics almost to the day of departure, squeezing every last particle of experience from the English system in order to better prepare herself for her Indian work. Her diary depicts her last few months in England as an indefatigable round of clinical attendance at the Western General Dispensary and Kentish Town Mission where she treated cases, opened a few abscesses, gave vaccinations and watched procedures, interspersed by trips to Camden Town and Weiss and Downs to procure instruments and drugs to take with her to India.[34] Ellen was able to purchase a midwifery kit, a collection of medical instruments, and a substantial list of drugs prior to her departure from London, thanks to the generosity of her Grandmother and Aunt. Her acquisitions suggest that she was not unaware of the paucity of equipment she was likely to find when she arrived, while the essential contribution of her relatives underlined the truth of Elizabeth Garrett-Anderson's comments about the financial frailty of many of the LSMW students.[35]

The emphasis on the isolation and dislocation of medical missionary work should not obscure the reality of financial dependency on the central committee at home. The BMS retained the responsibility for all the mission stations under its authority, and kept a tight hold on the fiscal reins. As with all other missionary societies, the BMS expected that part of the burden of finance would be borne by the mission itself, through reasonable charges for medicines, accommodation and treatment.

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[33]Farrer. *Fifty Years*. p. 3.
[34]Farrer, Ellen. Personal Diaries (January-September, 1891). Farrer archive collection, Angus Library, Regent's Park College, Oxford.
[35]Farrer. *Fifty Years*. p. 4; See above, pp. 58 & 87, for Garrett-Anderson's remarks.

However, the Medical Missionary Auxiliary was probably set up in part to separate the fund-raising of the medical missions from that relating to the strictly theological and educational ones. The rapacious nature of the medical missions meant that a disproportionate amount of the central fund was bestowed upon them, due to their greater material needs. The MMA, therefore, became responsible for the organisation, inspection and finance of the medical arm of the BMS, although the ultimate responsibility still lay with the central committee. Hence, when the BMS was forced to cut the funds to *all* the Indian missions in 1931, the Bhiwani mission budget was cut from £40 000 to £31 000 per year.[36] Bhiwani did have another source of revenue, receiving, in addition to the BMS funds, a grant from the Municipal Committee of Bhiwani. The first donation of the Municipal Committee was made in 1893 and amounted to only Rs 40.[37] However, by 1918, it had become an annual grant worth Rs 800, and the Municipal Secretary was intending to increase it still further to Rs 12 or 1500, in recognition of the plague work done by the mission.[38] Unfortunately Ellen only mentions this grant again in 1930, when she notes that it is being cut to Rs 12½ per month. Prior to this, the mission had been in receipt of Rs 25, although Ellen stated that 'for years and years we got Rs 100, but this has been cut and cut over several years partly because of the cranky financial state of the Committee but chiefly because the Congress Wallahs or Anti-Britishers are in the ascendant of the Committee and would cut it to nothing if they could.'[39] The reduction in the Municipal grant was all the more galling because the

[36]Letter from Ellen to her Sisters. (November 1, 1931). Farrer archive collection, Angus Library, Regent's Park College, Oxford.
[37]Farrer. *Fifty Years*. p. 6. Rs 40 was equivalent to about £3.30.
[38]Letter from Ellen to her Sisters. (April 14, 1918). Rs 800 was equivalent to about £66, Rs 1200 was about £100, and Rs 1500 about £125.
[39]Letter from Ellen to her Sisters. (March 30, 1930). The 1930s began to see an increase in Indian Nationalism, and this manifested itself even in Bhiwani where there were very few Europeans. The mission was one of the few vestiges of the Imperial presence there, which is presumably why it was such a target. The Indian National Congress promoted the boycott of all Government institutions including schools and colleges, in the interests of re-asserting Hindu national identity, and Gandhi rejected the assimilation of western education and science completely. Although technically independent of the Government, missionary societies were regarded as inherently tainted with the

same Committee was financing a new women's hospital at a cost of Rs 92 000 (although the estimated cost had been Rs 75 000). This hospital was still lacking a female staff at the time of opening, let alone a fully fledged woman doctor.[40]

Ellen received a salary of Rs 125 a month in 1915, which was presumably paid by the MMA. Unfortunately, Ellen's mention of financial topics was both infrequent and cursory and extrapolation has to be made from the few sparingly scattered comments.[41] Other fiscal contribution came from the charges levied for beds in the wards or for private rooms, and the out-patient dispensary donation box which surrendered approximately Rs 30-40 per day in 1923.[42] Unfortunately, the financial accounts of the dispensary and later hospitals are not included in the surviving archival material, so the information is somewhat scant and irregular. The dispensary donations are mentioned only once and then only in connection with a theft. The charges made for accommodation are provided only for the year 1932, when Ellen mentions that they have decided to reduce the rate for private wards because no-one was using them. The altered charges were Rs 1/4 for the oldest rooms and Rs 2/4 for the newer.[43] The various hospital constructions which emerged in Bhiwani under Ellen Farrer's supervision, were facilitated by donations raised through the energetic canvassing of Ellen and the other missionaries.[44] Fund-

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colonial aspirations and therefore sometimes suffered from the nationalist policy at a local level. Rs 12½ was equivalent to about £1, Rs 25 to £2, and Rs 100 to just over £8. Judd, D. *Empire: The British Imperial Experience from 1765 to the Present.* (London, 1996). p. 261; Neill, S. *Colonialism and Christian Missions.* (London, 1966). p. 113; *Chambers Dictionary of World History.* (Edinburgh, 1993). pp. 676-7.

[40]Letter from Ellen to her Sisters. (April 6, 1930). Rs 75-92 000 is equivalent to £6-8 000.

[41]Farrer. Personal Diaries 1891-1933. (Flyleaf, 1915). Ellen's salary was equivalent to about £10.

[42]Letter from Ellen to her Sisters. (February 27, 1923). About £2.50-£3.30.

[43]Letter from Ellen to her Sisters. (August 15, 1932).

[44]Farrer, Ellen. 'Letter from Bhiwani'. *The Missionary Herald.* (February, 1913); Farrer, Ellen. 'Letter from Ellen Farrer'. *Heath Street Monthly.* (March, 1923); *The Opening Ceremony of the New Private Wards: Farrer Hospital, Bhiwani.* (1929). Typewritten sheet contained in the archive collection of Dr Ellen Farrer, retained by the Baptist Missionary Society at the Angus Library, Regent's Park Library, Oxford. The money raised by the mission for their various projects included £250 for a nurses home, Rs 13 500 for the hospital built in 1923, and a further Rs 6 600 for improvements in 1929. They had also had to raise the money for the first hospital in 1899.

raising was pursued locally in Bhiwani Town and the surrounding villages, and also at home from friends, family and interested parties. For example, Ellen's church at Heath Street promised to support a bed in the new hospital in 1899, and later donated a maternity ward and Rs 150 for the new hospital in 1923.[45] Indeed, every furlough taken by Ellen seems to have been partly a holiday, partly a study leave, and partly a fund-raising expedition.[46] In 1924, Ellen's Bhiwani statistics included a record of receipts which claimed an income of Rs 5261 - 6 annas - 3 pis for the year. Unfortunately, this was another isolated moment of candour, and neither previous nor subsequent reports include a statement of financial yield.[47] Although the evidence of financial standing has had to be culled and gleaned from various reports and diary entries and does not lend itself to an evaluation of changing fortune and expenditure over the period, it does give an indication of the fiscal difficulties involved in running a charitable mission. The Bhiwani station was dependent on grants-in-aid and regular donation, and it seems very doubtful that they could ever have managed to support the hospital and dispensaries through treatment charges alone. This evidence corroborates the contentions of Elizabeth Garrett-Anderson, Sarah Heckford and others, who regarded self-sufficiency as difficult in a major centre and well-nigh impossible anywhere else.[48]

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[45]Farrer. *Fifty Years.* p. 7; 'Letter from Ellen Farrer'. *Heath Street Monthly.* (March, 1923). Farrer. *The Opening Ceremony of the New Private Wards.*

[46]Farrer. *Fifty Years.* pp. 6 & 10; Farrer. Personal Diary. (1916). On her first furlough, in 1897, she raised money for the first hospital; in 1911-12, she gathered donations for a nurses home; and in 1916, she was canvassing for the second hospital.

[47]Medical Mission Auxiliary. 'Medical Missions - Bhiwani'. *The Missionary Herald.* (1924); Letter from Ellen to her Sisters. (November 1, 1931). This total is equivalent to £173, which would suggest that it is the total revenue generated by the mission itself, since the Municipal Committee donation amounted to £96 per year (if it was still at Rs 100 per month), and the charges for accommodation and medicines would account for more than £80. There was also the yearly grant from the BMS, which would have been a part of the £40 000 quoted by Ellen in 1931. £173 in earnings would seem reasonable, given that it cost about £13 per year to rent the dispensary house in Bhiwani in 1931, and about £9 a year to supply it with medicines.

[48]See above, p. 87.

When Ellen arrived at Bhiwani in November 1891, she was unable to speak a word of any of the native languages of India.[49] She immediately began to study Urdu and, meanwhile, acquired a girl from the BMS mission school in Delhi called Jane, who was to act as dispenser and interpreter. At first, Ellen spent most of her afternoons engaged in learning the language and, in addition to Jane, had a 'munshi' or teacher who came every day to read with her.[50] Jane was replaced in 1892 by Rebekah, also of the Delhi mission school, who had trained for 2 or 3 months as a nurse and had come to act as a compounder for Ellen.[51] Having arrived with no knowledge of Urdu, Ellen learned very quickly and was soon able to understand more Urdu than Jane did English, which made her a somewhat redundant interpreter.[52] However, despite this early proficiency, Ellen was less than sanguine about her linguistic abilities, writing dispiritedly in 1896 that she couldn't always understand the women and 'had to either evade them or get Rebekah to come and explain what they are saying. This is partly because most of the women speak in a broad *patois* and though I have become familiar with many of the expressions they use in describing their ailments it is difficult to follow them when they speak of other things'. Indeed, Ellen 'sometimes despair[ed] of ever being able to understand properly all they [the patients] say and some who have been out much longer than I still say that they cannot always understand'.[53] This outburst followed a discussion with some Moslem women about the nature of Christianity and the relative merits of Christ and Mohammed, which probably required considerable linguistic finesse.

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[49]Bisset, M R. 'Dr Bisset's Story of the Farrer Hospital, Bhiwani'. *Fifty Years for Bhiwani Hospital: The Farrer Jubilee.* p. 12. Although the study of language *prior* to departure was recommended by the World Missionary Conference, Ellen arrived not knowing a word. Nor can this be excused as inexperience on the part of the BMS, since Dr Bisset who joined Ellen in 1907 also arrived with virtually no Urdu and had to undergo the same intensive language course in Bhiwani as Ellen had done eight years before.

[50]Farrer, Ellen. *The Story of the Farrer Hospital.* (Unpublished manuscript, 1928). Farrer. Personal Diaries (1891-1933). Ellen read and studied with the Munshi every day during the first year.

[51]Farrer. *Story of the Farrer Hospital.*

[52]Farrer. *Story of the Farrer Hospital.*

[53]Farrer, Ellen. 'Bhiwani'. *The Missionary Herald.* (1896).

However, her grasp of the language must have been fairly formidable by then since she was able to teach arithmetic *in Urdu* to a young Indian girl, Josephine Yaqub, who went on to pass the entrance examination for the Ludhiana Medical school.[54] In fact, Ellen's abilities improved to such an extent that in later years she translated two textbooks into Urdu, one on anatomy for nurses for the North India Nurses Examination Board, and another on midwifery. The midwifery volume was done at the request of the Government who 'so recognised Dr Ellen Farrer's efficiency in the language' that they requested her to translate the standard textbook into Urdu for the Punjab Central Midwives Board.[55] She also gave a 6 page radio broadcast to India, completely in Urdu, in January 1945.[56]

MEDICINE AND EVANGELISM AT THE BHIWANI MEDICAL MISSION.

Command of the local language was not only a vital necessity for medical treatment and a desirable asset for social interaction, it was an essential element of the evangelical mission activities. Although the mission at Bhiwani ran two schools in which English was taught, the lack of Europeans in the area meant that English was not widely known and communication was possible only through the native tongue - which in Bhiwani was Urdu.[57] Ellen participated in the evangelical aspects of the mission, although not in the same way or to the same extent as Annie, Isabel and other non-medical members of the mission. Indeed, the predominance of the medical factor in Ellen's work would tend to substantiate the contention of

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[54]Farrer. *Fifty Years*. p. 6.

[55]Guyton, Mary. 'How Nursing Came to Bhiwani'. *Fifty Years For Bhiwani Hospital: The Farrer Jubilee*. p. 15; Farrer. Personal Diaries. (May 31, 1918), (January 15, 1919), (August 13, 1928), (February 16, 1930). The anatomy book was completed in 1918, and the midwifery volume, 618 pages long, in 1930.

[56]The text is included among the papers held in the Farrer archive collection, Angus Library, Regent's Park College, Oxford.

[57]The first school was established by Isabel Angus in 1887, the second after Ellen's arrival in 1891. Angus. *Evolution of a Mission Station*. p. 40; Ellen Farrer. Clinic Diary (1890-1923). This diary lists the personnel and the various arrivals and departures of staff as well as certain events of note. It is distinct from Ellen's personal diaries which are closely written engagement diaries and record events in relation to Ellen rather than the mission.

Reverend Wilson and others,[58] that medical missionaries were necessarily unable to support a large share of the spiritual endeavour. Nevertheless, in the address delivered at her funeral, Ellen's devotion to her evangelical duties was praised by Reverend Eadie, who described her as 'first and foremost a missionary, eager to win others for Jesus Christ', while her obituary in the Baptist Handbook quotes the North India Missionary Conference comment that 'in spite of days very full of medical work, Ellen never let it interfere with the evangelistic side of her missionary labour'.[59] This evangelical work took several forms. As stated above, healing and medicine were regarded as an intrinsic part of the evangelical mission in themselves and the medical mission at Bhiwani was to serve as a representation of Christian charity in action. Ellen believed that the medical missions afforded 'a living proof that Christianity is a religion of love not fear' and one which was calculated to appeal to the most ignorant. She contrasted it favourably with Hinduism, which 'whatever pure form it took in the sacred books is in living practice based in fear'.[60] Dr Bisset, who came to join Ellen in 1907, also saw the hospital as a living proof of the superior benevolence of Christ over other deities. She described the case of a woman who had been gored by a bull and who, although not appearing to understand or appreciate the work and visits of the hospital evangelist, did learn 'of the love of God in all our hearts that taught us to be her willing servants in her time of extremity'.[61] However, much as she loved and honoured the role of medicine, Ellen thought it of secondary importance to spiritual salvation. Hence, her declaration in 1897, that 'it is a joy to heal, second only to the joy of knowing one has brought a soul from darkness into the light of God'.[62]

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[58]See above, p. 166.
[59]Eadie. 'A Small Woman with a Large Vision'. p. 3; *Obituary of Ellen Margaret Farrer*. 'Memoirs of Ministers and Missionaries'. (*The Baptist Handbook*, 1961). p. 347.
[60]Farrer, Ellen. *Report to the Medical Mission Auxiliary*. (April 26, 1901).
[61]Bisset, M R. 'Report from Bhiwani'. *The Missionary Herald*. (1912).
[62]Farrer, Ellen. *Report to the Baptist Missionary Society*. (April, 1897).

The 'evangelical' work itself, however, was clearly distinct from the material demonstration of the love of Christ and the fact of bearing witness to his instruction to heal. In addition, the medical mission promoted direct evangelism in both the hospital and dispensary using ward prayers, bible teaching, and a scheme whereby patients and their relatives could earn a doll or other small token by learning a section of scripture and a hymn.[63] Weekly prayer meetings were held in the chapel, and the mission also used magic lantern shows in the schools, dispensary and hospital to lure the natives to the station.[64] The opening prayer or 'bhajan' was also used as a forum for theological discussion, such as the one in 1896 which caused Ellen to despair of her Urdu. On that occasion, a Moslem woman had asked whether Jesus Christ was better than Mohammed. Ellen had engaged in an earnest discussion to convince her of the superiority of Christ, pointing out that Jesus was not only God incarnate, but that he suffered crucifixion and death for the salvation of humanity and was duly resurrected. Mohammed, on the other hand, was a mere mortal who neither sacrificed himself for others nor rose from the dead.[65] This kind of theological duelling would certainly be seen as direct evangelism, although it took place in the dispensary and was apparently a secondary aspect of the medical care and treatment. This seemingly casual approach was highly illustrative of the 'trojan' nature of the medical mission. People were drawn from the surrounding districts in search of physical succour and, once there, were insidiously exposed to the spiritual influence of Christianity. Without the lure of the dispensary and hospital, these people would have remained outside the range of the evangelical mission, since the existing staff was too meagre to reach out further than the few

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[63]Farrer, Ellen. 'Letter from Bhiwani'. *The Missionary Herald.* (March, 1916).
[64]Farrer. Personal Diaries. (10 July, 1896), (25 December, 1912); Farrer. *Report to the MMA.* (April, 1906). Ellen herself sometimes took the prayers at the dispensary and the hospital. On 3 December, 1892 her diary reads 'to the dispensary, where I attempted to take prayers myself. Afraid very feebly for want of words'. She had obviously improved by 1903, when a laconic entry merely notes 'went to the hospital to do prayers' followed by no qualification. Ellen also wrote sermons for the meetings, and the mission staff held tea parties on Christmas day for the Christian converts.
[65]Farrer. 'Bhiwani'. *The Missionary Herald.* (1896).

neighbouring villages. Indeed, Ellen was concerned that the paucity of available staff was restricting evangelical access and felt that the mission 'had not accomplished much in the way of village work and itinerating'.[66] However, despite the constraints of limited personnel, evangelical work was not wholly restricted to the mission base. When Ellen began to receive calls to attend patients at home, she was always accompanied by Isabel or Annie who would offer educational and spiritual guidance to the patient and her family. Equally, any hospital patient who had shown a flicker of interest in the gospel or evangelical services would receive 'follow up visits' from the hospital evangelist. The principal purpose of this patronage was to expose the family to the gospel and to maintain a Christian contact with the patient after she had left the mission environment.[67] When in later years the staff of the mission had sufficiently increased, one of the nursing sisters devoted almost all her time to this evangelical 'follow up work'.[68] Short-term, peripatetic 'evangelical missions' were also run in the City from time to time, and Ellen went on an evangelical tour with Isabel Angus in 1892.[69] Ironically, the actual mission station was without a church for the first ten years, only acquiring sufficient funds for one in 1898. It took even longer for the institution of a permanent preacher, and it was not until 1917 that a resident BMS padre was appointed to take the services and supply spiritual guidance and evangelical direction to the station.[70]

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[66]Farrer, Ellen. 'Letter from Bhiwani'. *The Missionary Herald.* (August, 1904); Angus. 'Evolution of a Mission Station'. p. 41. Isabel Angus described patients coming from 25 miles or more away, who had never heard of Jesus Christ let alone listened to the Gospel.

[67]Farrer. *Fifty Years.* p. 10; Guyton. 'How Nursing Came to Bhiwani'. p. 15; Farrer. Personal Diaries (1891-1933). For example, the entry for January 1, 1897 reads 'called to a patient in the City. Took Annie with me, but no-one in the house wanted to read'.

[68]Farrer. *Fifty Years.* p. 10. This was Sister Mary Guyton. The diversification was not possible until late in Ellen's time in Bhiwani, when the staff of the mission had become large enough to justify more than two nursing Sisters.

[69]Ellen Farrer. Clinic Diary. (June 20, 1892); ('October 18 - November 11, 1892. Evangelical Mission in the city').

[70]Farrer, Ellen. 'Red Letter Days at Bhiwani'. *The Missionary Herald.* (November, 1937). pp. 261-263, p. 261; Angus. 'Evolution of a Mission Station'. p. 42. The Delhi Training Institute had supplied the Bhiwani mission with a visiting trainee Indian preacher every Sunday since the establishment of the church, and in 1902, it loaned Samuel Marqus on a regular basis to take

Despite the potent desire among all the mission workers to draw converts to Christianity, there was an equally deep concern that any taint of coercion or 'proselytising' should be avoided. It was an issue of profound importance to Ellen, who vehemently denied that medical missions engaged in 'proselytising', a word she regarded as ugly in both sound and sense. She also made a firm declaration that, whilst medical missionary labour was 'an essential part of Christian witness' and that 'healing and preaching must go together', it was 'not fair to speak of medical missionaries using medical services as an evangelical device'.[71] She stressed that all attendance at ward prayers was entirely voluntary, and that all caste or religious prejudices were strictly observed 'however foolish or wrong'![72] Successes in conversion were limited and erratic and, in the first years, fraught with difficulty. Initially, new converts had to be sent away from Bhiwani for baptism 'for safety', and they usually stayed away rather than face the ostracism and persecution that accompanied their decision to abandon the Hindu or Muslim religion and culture.[73] The very first conversion did not occur until nine years after the establishment of the mission, and the first baptism actually to take place at Bhiwani was not until 1904.[74] However, although there was limited conversion among patients and ex-patients, the main evangelical success of the mission concerned the abandoned and orphaned children, who were frequently left to the mission in times of famine or epidemic. Some were reclaimed, but many remained in the care of Annie Theobald,

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services on Sunday and work with the men. However, a professional, resident BMS padre was not appointed for another 15 years.

[71]This statement was dually defensive, since it both repudiated the accusation of theological camouflage and counteracted the claim that medicine was intrinsically subordinate to the practice of evangelism. However, in the context of her preceding and succeeding argument, she appears to have been primarily concerned with the former issue.

[72]Farrer. *The Medical Work of Missions.*

[73]Farrer. *Fifty Years.* p. 6. Latifan was the first Moslem convert at Bhiwani and she had to be sent 'for safety to another of our stations'.

[74]Angus. 'Evolution of a Mission Station'. pp. 40 & 42; Farrer. Clinic Diary. (January 13, 1897). The first baptism took place in 1896, and was of a widow who had been one of the first pupils at Annie's school. Bhiwani was not the only mission forced to send potential converts away. Ellen noted in the clinic diary on January 13, 1897, that a Miss Bate had brought a young girl called Ulfat from Delhi to take refuge from friends who wanted to stop her becoming a Christian.

turned to Christianity, and went on to work for the BMS in various capacities. Josephine Yaqub was one such 'convert' and having been taught arithmetic by Ellen and passed through the Ludhiana training school, she returned to Bhiwani to work as a sub-assistant surgeon.[75] Children who came to the hospital as patients were also more likely subjects for conversion, and some did decide to stay within the mission. One example was Jannat, a blind girl from Hansi, who had a minor operation at the hospital in 1910 and whilst there, fell in love, converted, and after training in Rajpura, returned to work as a hospital evangelist.[76]

Ellen also describes Mamu, 'a bigoted Mohammedan woman' who would 'cover up her head during ward services that she might not listen, but this attitude gradually changed and she was willing to hear'. Although this did not culminate in conversion, it seems to contradict Ellen's earlier assertions that attendance at ward prayers was voluntary.[77] Nevertheless, the commitment of the mission to non-proselytising, non-coercive evangelical methods was affirmed by the swift dismissal of the notorious Miss Scoresby, a BMS Zenana evangelist who came to join the Bhiwani mission in 1916. She was not content with the passive nature of the missionary work and endeavoured to introduce a level of coercion into the practice. Eventually, she abandoned her Zenana work entirely in order to concentrate on the low caste natives, and threatened all the mission servants and workers with dismissal unless they immediately converted to Christianity. After several efforts at persuasion and numerous warnings, she was dismissed by the BMS, but then set up a rival establishment offering money and work to any of the mission Christians who

[75]Angus. 'Evolution of a Mission Station'. p. 42; Farrer. *Fifty Years*. p. 6.
[76]Farrer. *Fifty Years*. p. 11.
[77]Farrer. *Fifty Years*. p. 11. Indeed, it is hard to see how they could be, given that many of the patients would be unable to leave their beds. However, there is no evidence that any leverage was used to induce conversion and the number of converts compared to the turn-over of patients was too low to suggest anything other than passive or voluntary evangelism.

would follow her.[78] It subsequently emerged that Miss Scoresby was in the throes of an affair with a Hindu mission servant called Jati, which shocked and horrified the other missionaries who feared it would bring the entire cohort into disrepute. The scandal continued to cause them distress until Miss Scoresby eventually eloped three months later.[79] Ellen herself believed Miss Scoresby was insane. However, although at the time it was feared that Miss Scoresby's behaviour would undo all the good work of the mission, it was at the end of this same year that Ellen reported the beginnings of a mass conversion. In late 1917, Ellen urged the BMS to send more workers to Bhiwani because of the numbers of converts they were receiving, writing 'there seems to be a widespread movement beginning among the low caste people in the direction of Christianity in these parts, similar to the mass movements experienced elsewhere and many more missionary workers are needed to take advantage of this and to guide them'.[80]

In 1906, Ellen had written of her 'disappointment in ... converts and enquirers of whom so much was hoped' and although the mood was decidedly less pessimistic by 1917, conversion was still unpredictable, erratic and, sometimes, transitory.[81] Patients who had declared their belief in Jesus Christ, recanted after they left the

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[78]Letter from Isabel Angus to Ellen Farrer. Isabel Angus sent an anguished letter to Ellen who was on furlough in England, declaring that the mission was in danger and that

> 'Miss Scoresby has wrecked the Church and seduced, there is no other word for it, the Christians away from their allegiance to the mission and gathered the poor ignorant people around her....I couldn't have believed anyone professing fear of God could have been so treacherous and foolhardy and utterly callous to honour, courtesy and reason as Miss Scoresby. She is not mad. It is an overwhelming egoism which fastens on anything that can minister to her aggrandisement and vanity'.

The letter is, unfortunately, undated, but the scandal erupted in January 1917 and this letter seems to fit chronologically in that month.

[79]Letter from Ellen to her Sisters. (April 12, 1917).

[80]Letter from Ellen to her Sisters. (November 21, 1917). This mass conversion does not appear to have been prompted by any environmental catastrophe such as famine or epidemic, although Bhiwani was frequently hit by both these phenomena and bubonic plague made an unwelcome return in 1918. However, the converts were low caste and had little to lose in converting.

[81]Farrer. *Report to the Medical Mission Auxiliary.* (April, 1906).

hospital or were persuaded by friends and relatives. Indeed, just as 'rice converts' abandoned their traditional religion in the face of physical need, the patients who converted whilst in the hospital were afforded no less potent inducements. The entire hospital was suffused with the Christian ethos, and the patients were undeniably grateful for the treatment and mercy shown to them by the mission staff. In addition, they were offered spiritual guidance, bible stories and hymn-singing, if only they were willing to listen and learn. Most *were* willing, but their interest more likely sprang from boredom or gratitude rather than a genuine desire to learn about Jesus Christ or to consider conversion. For example, a young girl called Jiuni crawled 15 miles to Bhiwani hospital covered in sores and was treated and healed by the missionaries. Ellen recorded that Jiuni 'was very grateful and wanted to repay us', which statement was quickly followed by the observation that Jiuni 'has learned three hymns and a text and said she believed in Jesus'. A repayment indeed.[82] Ellen also reported innumerable retracted conversions and near misses, beginning in 1893 when she recorded that 'the Reverend Thomas came to baptise Gohal and his friend, but they changed their minds at the last minute'.[83] A few years later, Bhagwandi, a member of the mission and an early convert who had worked with them for some time, recanted. 'Bhagwandi died today. Her people influenced her in her weakness and she died denying Christ in words'.[84] In 1914, Ellen mentioned that there had been a fight between the Christian converts and their heathen neighbours, which would suggest that the evangelical nature of the medical mission was regarded by some with distaste and hostility. However, there is no other instance of outright conflict recorded and in the main, relations with the

[82]Farrer, Ellen. 'Letter from Bhiwani'. *The Missionary Herald.* (March, 1916).
[83]Farrer. Clinic Diary. (February 3, 1893).
[84]Farrer. Clinic Diary. (June 2, 1905), (August 22, 1912). The phrase 'in words' was underscored and Ellen clearly believed that Bhagwandi retained her belief in Christ in her heart. She had no such solace in 1912, when she was forced to record that one of the converts who had been employed as a servant had recanted and returned home.

natives appear to have been harmonious.[85] Indeed, the greatest source of outrage and grief expressed by Ellen regarded members of the mission itself. Most particularly Miss Scoresby, but she also suffered minor disillusionment over her second interpreter, Rebekah, who was discovered to have 'been having men in at night for a long time' in 1900 and was consequently dismissed. Similarly, the first hospital evangelist appointed in 1898, Margar Begami, left after less than a year 'having created a great deal of scandal' by her behaviour.[86] Nevertheless, Ellen's belief in the need for evangelical enlightenment in India never waned, rather it grew stronger as her perception of the vastness of the field widened.

> 'When I began wishing to be a missionary as a child, I feared all the work would be done by the time I was an adult. Now I see that all endeavours of all the missionary societies in India are as drops in a bucket. So many fields still remain unoccupied, and there is still so much to be done'.[87]

Isabel Angus shared this opinion, writing of the visit of an old woman from a village some distance away who, when told of the Gospel of Christ, wailed 'I am eighty years old and I never heard such things before; *how* can I understand'. For Isabel, this was an indictment of the lack of personnel sent by the missionary societies. 'There are hundreds of waiting, seeking souls in these Indian villages. From how many may not the condemnatory complaint come to us: 'I am too old to understand the belated message you bring'.[88]

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[85]Farrer. Clinic Diary. (September 27, 1914).
[86]Farrer. Clinic Diary. (December 13, 1900), (October 3, 1898), (June 8, 1899). Rebekah had already been in trouble in Delhi and had been sent to Bhiwani to escape her disgrace.
[87]Farrer. *Report to the Medical Missionary Auxiliary.* (April, 1906). This appreciation of the scope of missionary work also explains the willingness of the various missionary societies to work together and to partition the field between them. Not only were they all working to the same end, but in order to spread the net as wide as possible, they needed to co-ordinate their effort rather than compete for innumerable heathen souls. Hence, the harmonious relations between the various missions and the interaction of personnel. Ellen received help from the LMS in the form of Dr Eleanor Shepheard in 1901, and the movement of medical staff among the various missions and hospitals became an increasingly common trend throughout the period.
[88]Angus. 'Evolution of a Mission Station'. p. 41.

Ellen did, then, involve herself in the evangelical work of the mission, participating regularly in services, prayers and discussion, although her medical duties inevitably took priority over all else. In time, when the dispensary attendance began to grow, she had increasingly little leisure to devote to spiritual activity. Nevertheless, the attitude expressed in her diaries, letters and reports gives a strong indication of her devotion to the work of God, and it would be unjust to imply that her interest and commitment to the spiritual purpose of the mission became any less keen over the years. In fact, as time went on and Bhiwani became better staffed, there was a much greater degree of specialisation than had been possible in the early days. The schools and Zenana activities were steadily divorced from those of the hospital, and within the medical mission itself, there was a more specific division of labour. Ellen and her fellow doctors were required to commit more time to medicine and surgery, although they still managed to conduct ward prayers or the bhajan when duty permitted. Reverend Wilson had exhorted missions to guarantee 'enough leisure for the professional workers - whether doctors or nurses- to devote themselves to the cure of souls'; but although the staffing levels at Bhiwani increased significantly over the years, the demand for services continued to overload capacity and curtail the leisure time available for evangelical work by the principal medical staff.[89] Nevertheless, the enlargement of the nursing staff did eventually liberate one sister to follow up the evangelical work begun in the hospital. Ellen's experience perhaps proved that medical missionaries did have to prioritise and make sacrifices. Her willingness to share in the direct evangelical side of the missionary work was a testament to her 'missionary zeal', as was her hope and pleasure in the conversion of any of the patients. However, the sheer weight and burden of work involved in running a dispensary and hospital consumed

[89]Wilson. 'Medical Missions'. p. 261.

much of her time and energy, and resulted in a greater degree of diversification than had been envisaged at the outset.[90]

THE DEVELOPMENT OF BHIWANI STATION AND THE FARRER HOSPITAL.

What Ellen found at the end of a twenty-three day voyage from England and three day journey from Bombay to Bhiwani, was a neglected dispensary and a singular absence of either medical colleagues or European society *per se*. The building designated as the clinic dispensary was merely an old Indian house with the traditional small, dark, windowless rooms, and completed with vivid frescoes of Hindu gods scattered across all the walls. The rooms were arranged around a double courtyard, with the outer and inner enclosures having to suffice as the out-patient and in-patient accommodation respectively. Dressings and tooth extractions were performed over the open drain that ran through the out-patient quadrangle, while surgical operations had to be done in the open inner courtyard, regardless of dust and prying eyes.[91] Coping with and succeeding in such primitive conditions required a tenacity, determination and endurance seemingly incompatible with the youthful and fragile figure who arrived in Bhiwani in November 1891. However, having triumphed over the prejudice still flourishing against female doctors and emerged from the rigours of medical training with a first class degree, post-graduate experience and an estimable reputation, Ellen was not likely to be easily disheartened by the stark realities of India.

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[90]Morgan, Rev R. 'The Church and Evangelism in the Bhiwani District'. *The Missionary Herald.* (November, 1937). pp. 263-265, p. 263. Elizabeth Garrett-Anderson regarded 'one profession firmly grasped' as enough for anyone, and Ellen's experience at Bhiwani certainly appears to prove the truth of this. By 1937, the work had been specifically divided at Bhiwani into hospital work, women's evangelistic work, the Church, and men's evangelistic work.

[91]Farrer. *Fifty Years.* pp. 5-6.

Her linguistic handicap notwithstanding, Ellen threw open the doors of the city dispensary just one day after she arrived in Bhiwani.[92] This first clinic drew only three tentative consultations, but Ellen admitted her first in-patient on December 10 and the first major operation followed on March 5, 1892.[93] The operating procedure bore little resemblance to the smooth efficiency of a London Hospital theatre, being distinguished instead by makeshift arrangements and the coalescence of all surgical roles into one. The paucity of staff forced Ellen to act as surgeon, dresser, nurse and auxiliary, performing duties such as bathing the patient and attending throughout the night. However, there was a limit even to Ellen's multiplicity and Isabel Angus had to be pressed into service as the anaesthetist, although 'the responsibility for everything rested on the doctor'.[94] During the first year of the work, the dispensary treated 2 323 new patients and dealt with 6 900 return visits. By March 1893, day attendance at the dispensary frequently reached the giddy heights of 60 patients.[95] This rate of progress continued and, in 1896, Ellen was convinced that the success of Bhiwani was of sufficient magnitude to not only merit the establishment of a proper hospital, but to need one urgently. She began to make short visits of inspection to other women's hospitals at Agra, Lucknow and Benares, and to evolve her own scheme. Her first furlough was spent persuading the Baptist Zenana Missionary Committee to grant permission for the hospital to be built, and then raising money for the purpose.[96] A strip of land adjacent to the mission bungalow was eventually purchased, after much negotiation and haggling with the seventeen 'owners' who emerged claiming title to it, and the

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[92]Farrer. Personal Diary. (November 12, 1891). A mission bungalow had been built just outside the town in 1890 and this was where Ellen lived, travelling into the town each day to attend the dispensary.

[93]Farrer. *Fifty Years.* p. 6. This was on a small boy with bone disease in his leg.

[94]Farrer. *Fifty Years.* p. 6; Farrer. Clinic Diary. (March 28, 1892). The staff problem was such that Isabel Angus began to work regularly in the dispensary to help Ellen.

[95]Farrer. *Fifty Years.* p. 6.

[96]Farrer. *Fifty Years.* pp. 3 & 6. Ellen's first furlough took place between April and November, 1897. She found the BMS entirely compliant, particularly since Mrs Angus had envisaged that 'the development of hospitals might be a natural consequence' of sending female doctors to India.

hospital was built there in 1899.[97] It was a fairly modest establishment with an eight bed ward, operating room, veranda, three room dispensary, and a store. In contrast to the old dispensary, it was equipped with washable floors and benefited from ventilation via windows rather than just the door. However, the new hospital swiftly proved to have insufficient capacity, despite the use of the old town dispensary as an out-patients department. Staffing remained rudimentary and Ellen was still working without a proper nurse, although she had acquired the services of a young convert auxiliary who had worked in another mission hospital for about a year. It was not until 1902 that Bhiwani was graced by the first properly trained nurse, Ujiyali.[98]

The whitewash had barely had chance to dry before plans were being made to extend the hospital, plans which would necessitate further fund-raising efforts from Ellen and the mission. However, in 1901, Ellen had been joined by Dr Shepheard on loan from the LMS, who was able to alleviate some of the ever-increasing burden of activity. Eleanor Shepheard stayed at Bhiwani for just over two years before leaving to establish her own medical mission at Almora. She helped Ellen to set up a branch dispensary at Dadri, a town about 12 miles distant by rail, although this venture proved too ambitious and had to be abandoned after a year.[99] When Dr Shepheard departed for Almora, Ellen was again engulfed by professional isolation and overwhelming responsibility. The gulf was filled nine months later by Dr Mary

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[97]Farrer. *Story of the Farrer Hospital.* See photograph on following page.
[98]Farrer. 'Red Letter Days at Bhiwani'. p. 262.
[99]Farrer. Clinic Diary. (December 11, 1901), (December 12, 1902), (December 29, 1903), (March 31, 1904), (December 17, 1891). The Dadri scheme faltered partly through a lack of attendance by the locals and partly because the mission still lacked sufficient staff to extend themselves to a third site - the town dispensary and the mission hospital being the other two. When either Eleanor or Ellen fell ill, the Dadri dispensary was left unattended and it was after Eleanor suffered a prolonged bout of illness that the scheme was abandoned completely. Back in December 1891, Isabel had been to Dadri to 'see about a dispensary there', but there had been little enthusiasm among the local population. There was not apparently a great deal more in 1902.

THE FIRST MISSION HOSPITAL AT BHIWANI, 1899.

Raw who remained at Bhiwani for three years, before leaving to establish a hospital for women at Dholpur. Her arrival enabled Ellen to attempt the second and more successful branch dispensary at Hansi, 24 miles in the opposite direction from Dadri. Hansi was a larger town and gave greater promise of support to the dispensary. The Bhiwani branch clinic continued to flourish there until a hospital was built in 1937, making the dispensary redundant.[100] In 1907 Dr Raw transferred to Dholpur, being succeeded at Bhiwani by a permanent replacement from the BMS, Dr M R Bisset. Dr Bisset had been appointed by the BMS in 1905, but had delayed her departure to India in order to gain post-graduate experience in England.[101] When Dr Bisset eventually arrived in December 1907, the full complement of staff was still limited to Ellen, 'one Indian dispenser and a few more or less trained Indian nurses'.[102] However, the extension of the hospital the following year provided accommodation for nurses and an Indian assistant doctor, as well as a much needed additional 12 bed ward.[103] A second physician was not the only bounty afforded to Bhiwani at this time, and Dr Bisset was followed a month later by the very welcome appointment of an English nursing sister to the staff, Sister Emily Gautrey. The addition to the staff of a professional nursing sister facilitated the advent of training for the native girls in various fields of medical attendance, including nursing, compounding and dispensing. The first classes consisted of six mission orphans, but the training schemes were to increase in both size and scope over the period of Ellen's residence.[104] Medical work flourished and even with the new extension, accommodation was soon at a premium. Further extension to the existing buildings was impracticable, so the Bhiwani cohort

100Farrer. 'Red Letter Days at Bhiwani'. p. 262; Farrer. *Fifty Years*. p. 8.
101Farrer. Clinic Diary. (December 10, 1907), (December 11, 1907); Bisset. 'Story of the Farrer Hospital'. p. 12.
102Bisset. 'Story of the Farrer Hospital.' p. 12.
103Farrer. *Fifty Years*. p. 7.
104Farrer. *Fifty Years*. p. 9; Farrer. *Story of the Farrer Hospital*. Sister Gautrey arrived on January 26, 1908.

decided to embark on a completely new structure which would encompass both hospital facilities and the out-patient department that had remained in dislocated isolation at the old town dispensary since 1899.[105] This new hospital compound was based on original plans drawn up by Ellen herself, and was financed by a grant-in-aid of Rs 20 000 from the Government of India and various donations from Indian and English friends.[106] When it was opened in 1923, the main building comprised in-patient accommodation for 50 patients, separated into five specialist wards for eye diseases, maternity, surgery, septic surgery and medical cases. Six private wards, an operating room with a high table and marble floor, dressing stores, a sterilising room and nurses quarters completed the new facilities. The old hospital next door was converted into an out-patient dispensary and nurses home. However, the major innovation was the welcome inclusion of a private well sunk within the compound itself. This ended the reliance on the Moslem water-carrier, who had hauled all the water for the mission from a caste well some considerable distance away.[107] Nevertheless, the mission hospital continued to require improvement and extension to keep pace with demand and therapeutic potential. Hence, in 1929, a further three private wards were added, along with quarters for two trainee midwives and a modern pathology laboratory.[108]

This catalogue of progress gives an impression of untrammelled success, but in truth, the Farrer Hospital suffered many setbacks and battled against much hardship. Staffing levels were a constant headache, even when the necessary basic quotient had been achieved. The almost incessant illnesses, holidays, and periods of

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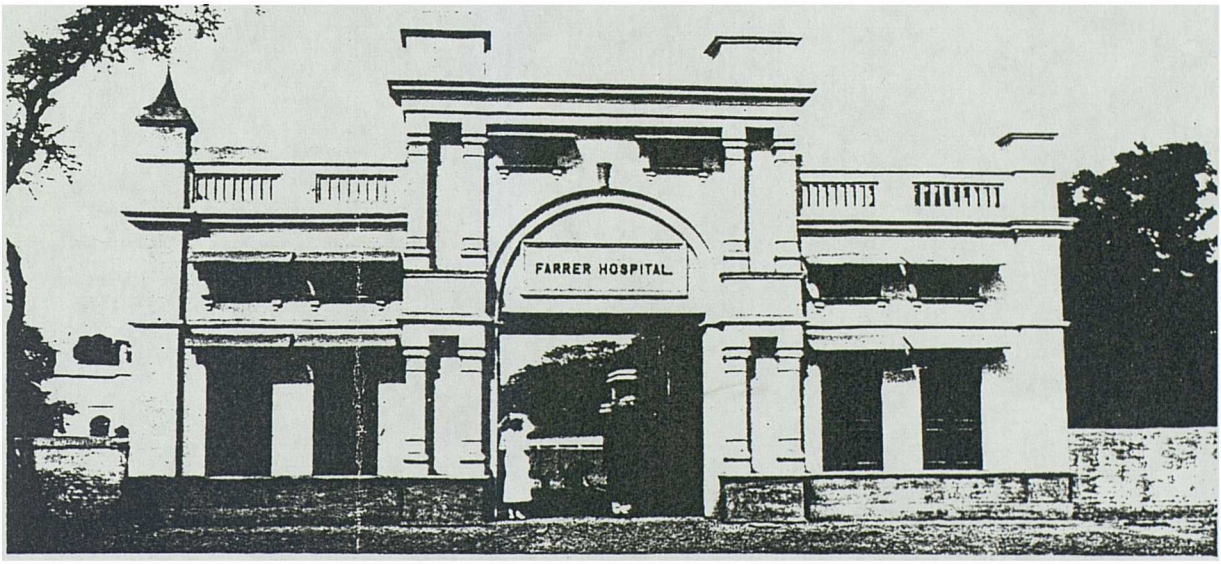
[105]The old town dispensary had been the site of Ellen's first clinics in 1891, and had remained the central focus for medical mission work until the advent of the new hospital in 1899.
[106]Hale, Rev F W. 'The Farrer Hospital at Bhiwani'. *The Missionary Herald.* (April, 1928). pp. 83-85, p. 83. The grant-in-aid was worth about £1 600.
[107]Farrer. *Story of the Farrer Hospital*; Farrer. 'Red Letter Days at Bhiwani'. p. 262; Bisset. 'The Story of the Farrer Hospital'. p. 14.
[108]Farrer. *The Opening Ceremony of the New Private Ward*; Farrer. 'Red Letter Days at Bhiwani'. p. 263. See photograph on following page.



THE FARRER HOSPITAL AT BHIWANI, 1937.

furlough, and the secondment of personnel to sister missions with even less comprehensive staffing, created a continual shortfall of qualified nurses and a consequent impediment to medical work.[109] The death of Sister Emily Gautrey in 1914 was both a personal tragedy and a professional calamity, although the loss to the mission was lessened by the acquisition of Sister Mary Guyton.[110] Ellen suffered further personal distress in 1931, when the financial constraints of the BMS led to the closure of the town dispensary: 'it grieves my soul to do this, for it is where I began 40 years ago and it has been going ever since, but it saves Rs 15 a month in rent and Rs 5-10 in drugs and the need is not so great for it now'.[111] More potentially damaging was the endowment of a rival hospital in Bhiwani in 1928, although it appears to have caused pique and irritation rather than outright distress. A rich native merchant wished to establish a non-religious Zenana hospital in the centre of Bhiwani town. On first hearing this, Ellen attempted to be sanguine, writing 'it will take time to build and having survived so many setbacks ... why should we fear that God will fail us now'.[112] The benefactor hastened to reassure them that he did not intend the Lady Hailey hospital to entirely displace the mission facility. Instead, he envisaged that the mission would concentrate on the serious cases, and the Lady Hailey would contend with the out-patient work since it was unlikely they would be able to engage a very experienced lady doctor from the outset. Ellen thought the scheme somewhat dubious, writing 'it sounds alright in theory, but I doubt whether it will really work in practice. We get the serious cases

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[109]Farrer. 'Letter from Bhiwani'. *The Missionary Herald.* (August, 1904). In 1904, for example, the Bhiwani staff consisted of two doctors, an assistant, two nurses and a compounder. The two nurses, in addition to their normal duties, also served as the surgical dresser and the matron.
[110]Farrer. *Fifty Years.* p. 10. Unfortunately, there is no indication of the date on which Mary Guyton began her service in Bhiwani. None of the historical reports mention the date, and she is not mentioned in Ellen's diaries or letters until 1918. However, it does not seem possible that the Bhiwani mission could have carried on the programme of training for three and a half years without a nursing sister, so presumably she arrived sometime before that.
[111]Letter from Ellen to her Sisters. (November 1, 1931). The need was evidently still there, given that the expenditure on drugs remained fairly constant.
[112]Farrer. *Story of the Farrer Hospital.*

largely because we try to take trouble over all who come to us - serious or not'.[113] She was unable to contain her glee when the hospital opened in 1930, with neither a lady doctor nor any other suitable staff. It evidently impinged little on the Bhiwani practice since it is not mentioned again by Ellen in either her letters or diaries, nor does it feature in the articles written by her colleagues who remained in Bhiwani after 1933.[114] Difficulties notwithstanding, staff numbers increased steadily over the years, and the 1928 roster included three European women doctors, one Indian sub-assistant surgeon, two English nursing sisters, two Indian staff nurses, one English lady dispenser, one Indian compounder and about 25 or 30 Indian girls training as nurses, compounders and midwives. By 1937, the complement had been further enhanced by an Indian doctor and a trained pharmacist.[115] Modern facilities were a little slower in coming, and it was not until the 1930s that electric lighting replaced the use of hurricane lamps and the hospital was provided with an internal water supply.[116]

The growth of the medical work and the establishment of the hospital and dispensaries engaged a substantial portion of Ellen's time and energy. In addition, she received increasingly numerous calls to attend private and emergency cases. Her very first private case had been as early as December 1891: 'went to my first visit at a private house to see a baby with congenital malformation of the eyelids'.[117] By 1896, the *Missionary Herald* reported that

> 'the private practice, i.e. that of visiting the better class of patients in their own homes, for which they are expected to pay a fee, seems to be growing. In one week, Dr Farrer earned enough to pay the rent on the dispensary for a month ..... the natives are losing the sense which some at least had at first that they were conferring a favour by allowing her [Dr Farrer] to treat them'.[118]

113Letter from Ellen to her Sisters. (September 3, 1928).
114Letter from Ellen to her Sisters. (April 6, 1930).
115*The Opening Ceremony of the New Private Wards;* Farrer. 'Red Letter Days at Bhiwani'. p. 263.
116Farrer. 'Red Letter Days at Bhiwani'. p. 262; Farrer. *Story of the Farrer Hospital.*
117Farrer. Personal Diary. (December 11, 1891).
118'Bhiwani'. *The Missionary Herald.* (1896). The 'better class' of patients were the *purdah nishin.*

However, this attitude did not dissipate quite so swiftly as the *Missionary Herald* had hoped, and Ellen was still experiencing condescending wariness ten years later. One case which she related involved a man who came to fetch her to his wife and 'impressed on me that he was a Brahmin and it was therefore an honour to me that he was asking me to help his wife'.[119] Nevertheless, private medical work continued to develop during Ellen's time in Bhiwani and by the end of her career, the doctors were receiving several calls a day (and night) to attend patients in the town or outlying villages. Among the boxes of letters and diaries held in the archive, are a clutch of letters and notes written to Ellen by local people requesting her help. One, from 1925, reads

> 'Dear Dr Miss Sahiba, I have heard from some persons that you are a well-known lady doctor, specially in women's diseases. My sister is suffering from a complaint since four months. I showed her to another lady doctor who gave her medicine but said she must have an operation.'

He then goes on to say that he cannot afford to pay for the operation, but imagines that as Ellen is a missionary she will do it for free - although he was willing to pay for a private room.[120] Several other letters survive in the collection, although most are somewhat less audacious. Some calls for help came from a significant distance away and, before the BMS sanctioned the purchase of a motor car for the Bhiwani station, these visits had to be made by rail and bullock cart. Even local visits and the daily trip to the city dispensary relied on the bullock cart or foot transport, since even bicycles were a rarity. Indeed, Ellen referred to an Indian doctor in the town as being 'very modern and progressive' because he rode a bicycle![121] The vicissitudes of transport and the limits of time imposed a restraint on work outside

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[119]Farrer. *Report to the Medical Mission Auxiliary.* (April, 1906).
[120]Letter to Ellen Farrer. (March 6, 1925).
[121]Letter from Ellen to her Sisters. (September 22, 1929); Farrer. *Fifty Years.* p.6; Farrer. *Report to the Medical Mission Auxiliary.* (April, 1906). The motor car arrived in 1929 'for the medical and evangelical work of the mission'.

the mission, which had evidently not been foreseen by the optimistic exponents of private practice in India. In the days before the second doctor came to Bhiwani, Ellen was only able to respond to calls during the afternoon, after she had finished her work in the dispensary and hospital. In later years, calls from a long distance away meant the absence of one of the doctors for a significant portion of the day - for example, when Ellen was called to a confinement in Sinsa, which was 7 hours train ride away from Bhiwani.[122] The medical work associated with the mission was formidable, including ward rounds, surgical operations, clinics for out-patients, sundry calls to patients in the town and villages, teaching and training nurses, compounders and midwives, conducting pathological investigation on various specimens, and doing sundry administrative chores such as compiling the pharmacopoeia and up-dating the hospital statistics.[123] Nevertheless, not only did Ellen seek to combine this with evangelical work, she also involved herself in a host of other time-consuming activities.

The first of these extra-curricular commitments was to the Ludhiana training school, established in 1894. This was designed to provide a segregated Christian environment in which native girls could be trained as nurses and hospital assistants.[124] The scheme was proposed by Ellen's travelling companion of 1891, Dr Edith Brown. Edith had found her work at Palwal handicapped by the lack of adequate medical staff, and decided that the necessity of providing such a resource transcended the need for an individual medical mission. She, therefore, proposed the scheme to an audience of fellow medical missionaries in 1893.[125] Ellen was among those invited to the discussion and although she suffered initial misgivings,

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[122]Farrer. Personal Diary. (September 18, 1902); Farrer. Clinic Diary. (July 22, 1908); Letter from Ellen to her Sisters. (March 26, 1917).
[123]Farrer. Personal Diaries. (1891-1933). Unfortunately these statistics are not included in the archival evidence left by Dr Farrer.
[124]The Agra school had been established by this time, but the trainees from there were not regarded as particularly well-trained, nor were they offered the opportunity of segregated tuition.
[125]Balfour, M and Young, R. *The Work of Medical Women in India.* (Oxford, 1929). p. 112.

particularly regarding the financial aspect, she became a member of the governing Board.[126] This involved copious administration and correspondence, frequent trips to Ludhiana for meetings, all of which became more arduous when she was made a member of the sub-committee formed to rectify the financial difficulties of the School in 1902.[127] However, this did not deter her from accepting Dr Brown's invitation to examine the Ludhiana first year students in anatomy, which involved composing an exam paper as well as marking the scripts.[128] The Ludhiana scheme *was* a great success and attracted pupils from many parts of India who wished to take advantage of the unique opportunity to study under an entirely female staff.[129] Ellen's interest in the tuition of the native nurses prompted her to become a member of the Nursing Exam Board in 1909, for whom she translated the anatomy book into Urdu. She also served as Chairman in 1919.[130] Her activities, then, were not confined to the BMS sphere, and she took a keen interest in the advent of the Association for Medical Women in India (formed in 1907), making regular contributions to its journal, and acting as secretary and treasurer for five years between 1927 and 1933.[131] This administrative work certainly encroached on her already precious time, but the increasingly regular mention of 'AMWI papers' in her diary reflects the dedication and commitment which Ellen made to any venture she undertook.[132]

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[126]Balfour and Young. *Medical Women in India.* p. 112; Barr, P. *The Memsahibs: The Women of Victorian India.* (London, 1976). p. 182; Farrer. Personal Diary. (May 2, 1894), (May 3, 1894), (March 21, 1902).

[127]Farrer. Personal Diary. (March 21, 1902).

[128]Farrer. Personal Diary. (December 3, 1897), (February 24, 1902).

[129]Balfour and Young. *Medical Women in India.* pp. 114-5. Ludhiana remained unique in this aspect for most of Ellen's time in India.

[130] Farrer. Clinic Diary. (November 24-6, 1914); Farrer. Personal Diary. (January 15, 1919). The nurses United Exam Board was formed in 1909.

[131]Letter from Ellen to her Sisters. (March 21, 1933); Drafts of papers prepared for the AMWI on Retention of Foetus, Dengue Fever, and Hydratid Mole. (February, 1913; February, 1924 and undated, respectively).

[132]Farrer. Personal Diaries. (December 6, 1928): 'To the dispensary and hospital. AMWI work took the rest of the day'; (February 7, 1929): 'Hospital and one visit. AMWI minutes'. References continue in the diary until 1932.

Ellen's views on the Dufferin Fund are difficult to elucidate, perhaps because she arrived in India at a time when the Dufferin scheme was already losing impetus, following the departure of Lady Dufferin in 1888. Ellen had visited Dufferin hospitals and also the Lady Hardinge College and hospital in Delhi, which she described as 'a palace of a place' and 'a huge contrast to the mission where we are very limited as to land'.[133] There was also a Lady Hardinge Hospital at Dholpur, established under the aegis of Dr Mary Raw, where Ellen was seconded for six months in 1918.[134] Ellen's attitude to the sectarian establishments was both benign and appreciative, although she was staunch in her championship of the mission hospitals. The proposed Women's Medical Service was seen by many as a threat to the missions, but Ellen did not regard it as necessarily dangerous to their survival. 'I believe that the proposed Women's Medical Service to India will come, but that it will *not* do away with the need for medical missions ..... but if medical missions are to survive they must be properly equipped and well staffed'. This was especially urgent since 'the AMWI, who are working for the WMS scheme, are proposing support to be lent by the Government to hospitals and dispensaries, whether Dufferin, Missionary or Municipal that are doing the best work. The others would be closed'. This put a premium on proper staffing and modern equipment for, although 'mission hospitals have been praised by qualified practitioners of a high professional standing, this status must be maintained and cannot be unless staff and equipment are forthcoming'.[135] Ellen went on to relate an anecdote which she believed supported the primacy of the mission establishments above all others. It regarded a male Hindu student whom Ellen had met in London, and who had told

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[133]Farrer. Clinic Diary. (February 20, 1892); Letter from Ellen to her Sisters. (December 16, 1917). The establishment of the Lady Hardinge Hospital was heavily sponsored and supported by the then vicereine, Lady Hardinge. The involvement of the vicereine in civic projects could be viewed as a less tangible legacy of Lady Dufferin and the Fund.

[134]Letter from Ellen to her Sisters. (April 28, 1918). This was a BMS centre though, unlike the Delhi establishment.

[135]Farrer, Ellen. *Report to the Medical Mission Auxiliary meeting.* (April 25, 1912). The WMS was established in 1913.

her of his desire to have medical aid for the women of his village. Despite his devout allegiance to his own religion, he still thought that the missionary hospitals were the best suited to carry out such work.[136] This and other testimony seemed to prove not only that medical missions could hold their own in the company of the wealthier municipal and sectarian hospitals, but that they were regarded by both professionals and native laymen alike as the superior article. Her faith was confirmed by the praise accorded to the Bhiwani hospital by the Inspector-General in 1933, and she was able to record in 1934 that, whilst 'WMS and AMWI improvements do encroach on the medical missions, the missions are not so backward and .... by using the resources available ... can achieve results that seem miraculous'.[137]

Nevertheless, acquiring a sufficient staff of acceptable calibre and providing necessary and up-to-date medical equipment was a constant source of anxiety to Ellen throughout her time in Bhiwani. From the day she arrived, she was in perpetual need of better facilities and more plentiful personnel, and on the eve of her departure she was still pleading for such necessities as an electricity plant, a laundry and an incinerator.[138] Nevertheless, the Bhiwani hospital and dispensary remained adaptable to conditions and achieved a high standard of efficiency, while the BMS medical scheme as a whole reflected improvements in management and organisational competence. The establishment of the MMA in 1901 was a particularly successful innovation, and it later assembled a medical sub-committee to oversee personnel distribution among all the North West India hospitals.[139] Transfer and secondment between hospitals was not a new innovation, but the sub-committee supervision facilitated better communication and planning, and a more

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[136]Farrer. *Report to the Medical Mission Auxiliary.* (April 25, 1912).
[137]Letter from Ellen to her Sisters. (February 26, 1933); Farrer. *The Medical Work of Missions.* (February 5, 1934).
[138]Farrer. 'Red Letter Days at Bhiwani'. p. 262.
[139]Farrer. 'What the MMA has meant to our Women's Medical Work'. *passim.*

even distribution of the available medical cadre. The traffic of interchange between the various missions had been common from the first days of Ellen's practice at Bhiwani, with doctors covering for sick or absent colleagues. However, this *ad hoc* practice did have limits, especially in the early years when female medics were a scarcity in the whole of India, let alone one province. For example, when Ellen fell ill with jaundice in 1893, it was a full month before Edith Brown was able to come to Bhiwani to replace her.[140] Ellen herself was sent to Delhi to hold the fort for a sick colleague in 1903, but was forced to return to Bhiwani when Dr Shepheard also became ill.[141] She also spent six months at Dholpur covering for a period of furlough in 1918, and was called back there in 1929 to help during an outbreak of cholera.[142] It was not only the doctors who were subject to these vicissitudes of medical fortune, since Josephine Yaqub, one of Bhiwani's first converts and a sub-assistant surgeon, was transferred on more than one occasion.[143] The inevitable shortfall of doctors or acceptable replacements meant that not all eventualities could be catered for. Hence, when Dr Bisset expressed a desire to 'join the Women's Unit and go to war' in 1918, the Bhiwani mission was told there would not be a locum or sub assistant surgeon available for at least three months.[144] This interchange of personnel was co-ordinated in latter years by the Medical Sub-Committee of the MMA, and secondment was not on a voluntary basis. Ellen was, thus, delighted in 1928 to hear that 'to my great relief the arrangements proposed by the Medical Sub-Committee for the staffing of the three hospitals of North West India do not involve my leaving Bhiwani'.[145] Indeed, Ellen had a profound attachment to Bhiwani and

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[140]Farrer. Clinic Diary. (August 26, 1893), (September 16, 1893), (October 10, 1893). Although Ellen fell ill in August, it was not until September that Edith Brown was able to come to Bhiwani.
[141]Farrer. Clinic Diary. (February 23, 1903), (April 23, 1903).
[142]Letter from Ellen to her Sisters. (August 11, 1929).
[143]Letter from Ellen to her Sisters. (November, 1918), (May 1, 1923); Farrer. *Fifty Years*. p. 6.
[144]Letter from Ellen to her Sisters. (April 24, 1918). The idea behind the women's unit was to free the men to go into Mesopotamia. Dr Bisset was unable to join in the end, because she could not be spared from Bhiwani in time.
[145]Letter from Ellen to her Sisters. (September 3, 1928). Secondment had never really been voluntary, since it would have been impossible to refuse a request for help from a sister mission.

each return from furlough or secondment prompted some expression of relief and pleasure.[146] Despite myriad difficulties and misfortunes, staff and equipment increased in both quantity and quality over the 42 years that Ellen was in Bhiwani, and the mission itself was responsible for training a significant proportion of the high calibre nurses and compounders in the North West district of India.

TRAINING AND TUITION FOR NATIVES AT BHIWANI MISSION HOSPITAL.

The arrival of Sister Emily Gautrey in 1908 heralded the beginning of the nursing training at Bhiwani, and also allowed for an expansion of the trainee compounders class that Ellen had begun in 1891.[147] In addition, Dr Bisset decided to begin a training class for the local dhais, in an attempt to teach them some basic rudiments of western science and hygiene. This proved to be an extremely successful venture, despite less than auspicious beginnings. The dhais were inherently hostile to the mission doctors, who they viewed as a threat to their livelihood and consequently, they attempted to spread suspicion among their clientele with lurid tales about 'what white doctors do'.[148] Ellen had partially succeeded in disarming this prejudice through benign influence and passive activity, but Dr Bisset favoured a more direct offensive and gained government sanction for her scheme. Nevertheless, even she had to indulge the prejudice of the dhais and hold the classes outside the mission compound since 'it was useless to suggest that they come to the mission for instruction since they feared they would perforce be made somehow into Christians'.[149] Instead, Dr Bisset began her class in the City Municipal Office with

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However, the medical sub-committee controlled the staffing of a wider area, which made the possibility of transfer more prevalent and protracted.

[146]Letter from Ellen to her Sisters. (January 27, 1920). For example, '*At last* I am back in Bhiwani'.

[147]Farrer. *Fifty Years*. p. 9.

[148]Bisset. 'Story of the Farrer Hospital'. p. 12. The class began in 1917.

[149]Bisset. 'Story of the Farrer Hospital'. p. 12.

a collection of mutinous dhais mumbling antagonistic questions. Their presence had been secured by the prospect of the 2 anna reward paid for each attendance at the class, financed by the Municipal Board. There was a further bonus of 1-5 rupees, if they fetched a doctor to difficult cases. Whether it was the monetary inducement or a new willingness to recognise the superior technical skills of the western doctors, the scheme quickly resulted in the mission receiving calls from the dhais to cases which they felt were beyond their powers.[150] Dr Bisset viewed this development as doubly beneficial, since the calls to private houses enabled the missionaries to forge friendships with the women and also to give evidence of both Christian charity and mercy in action. The necessary periods of enforced inactivity attendant on childbirth allowed these friendships to flourish, and thereby provided the opportunity to introduce the Gospel message.[151] On a more prosaic level, many potential deaths were undoubtedly averted through the co-ordination of effort between the dhais and the mission. The technical skills required to correct malpresentation were beyond the hereditary knowledge of the dhai, and previously such cases had ended in the death, undelivered, of both mother and child. The financial reward may well have been the most potent influence in developing this relationship, as had been shown by the experiences of Miss Hewlett at Amritsar.[152] Ellen had been extremely doubtful about the likely success of such a venture when Dr Bisset had first advanced the idea, writing 'Ronald is to start a class for midwifery, which will be splendid if she can get hold of them and teach them, but they are usually such a difficult set of women to influence'.[153] However, although it had 'seemed impossible to teach most of them more than the barest rudiments of cleanliness', Ellen was delighted by the resulting increase in calls to private houses

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[150]Letter from Ellen to her Sisters. (January 29, 1917). The results were extremely swift, with the first call coming within a few days of the class starting.
[151]Bisset. 'Story of the Farrer Hospital'. p. 13.
[152]See above, p. 77.
[153]Letter from Ellen to her Sisters. (January 23, 1917).

and reported to the *Missionary Herald* that 'Dr Bisset has made excellent advances in training the City midwives in a weekly class and is doing something practical to lessen the appalling infant mortality'.[154] The first essay into instruction was successful in imparting a limited degree of elementary hygiene and an ability to recognise when a case had gone beyond simple correction. However, several years later, Ellen embarked on a class to teach the second generation of dhais, which included a high percentage of daughters and daughters-in-law of the original group first instructed by Dr Bisset. These women were far more amenable to instruction and Ellen was, therefore, able to convey a far greater measure of practical and scientific knowledge than had been possible with the first group.[155]

The Bhiwani medical mission offered a considerable array of opportunities for tuition, including midwifery for both indigenous and non-hereditary 'dhais', nursing, dispensing and compounding. Thus, while Government and Municipal schemes faltered through lack of money or facilities and the Dufferin fund failed to make any progress in the field, the training at Bhiwani went from strength to strength. Starting on a very modest scale in 1891, the schemes had developed to a point where 8 of the 12 native nurses employed at a brand new maternity hospital in Delhi in 1936 were Bhiwani 'graduates'. Bhiwani was also part of a consortium of missions in the Punjab who joined together to form 'The Mission Board of Examiners' or United Exam Board in 1909, which established a recognised level of achievement for nursing qualifications.[156] The value of all these innovations became evident in 1936, when the registration of nurses began in the Punjab and the Registrar found that a majority of those registering were mission trained. He was moved to pay tribute, writing 'it has been borne in on me the very steady work your Mission Board has done in providing carefully trained and listed nurses to serve in

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[154]Farrer, Ellen. 'Letter from Bhiwani'. *The Missionary Herald.* (1918); Farrer. *Fifty Years.* p. 9.
[155]Farrer. Personal Diary. (August 14, 1930); Farrer. *Fifty Years.* p. 9.
[156]Guyton. 'How Nursing Came to Bhiwani'. p. 14.

our ranks'.[157] The commitment to teaching the nurses, midwives and compounders added another burden to the work of the mission doctors, especially as the intake increased over the years. Nurses spent a minimum four years in training and, although the best of each year stayed in Bhiwani to act as Staff Nurses for varying degrees of time, the teaching and supervision of the trainees pressed upon the leisure available for other pursuits, including evangelical work.[158] The responsibility for the instruction and examination of the students fell inevitably on the principal medical personnel, and was further compounded by the need to oversee their daily work. Ellen was perforce a jack of all trades in her first years at Bhiwani, acting as doctor, nurse, midwife, dispenser and compounder, and aided only by a few willing but barely trained Indian girls. However, far from shying away from additional burdens she made time to teach Jane and then Rebekah compounding, as well as trying to enhance the capabilities of the eager apprentices. 'Among the many jobs that fell to the lot of the doctor in those early years was a class for junior Indian girls, who were picking up what they could of nursing training, and the revision in 1903 of a translation of a book of very simple nursing lessons'.[159] Nor was it easy for Ellen to condense all her work into a mere 24 hours, and a sample of her hectic schedule proves her commitment to the Indian trainees. Her diary entry for December 3, 1893 reads '39 out-patients at dispensary. Old eye woman (in-patient) doing fairly so far. Studied with Munshi in the afternoon, made physic and then discoursed with Muriel about the structure of the eye'.[160]

However, even when Sister Gautrey arrived to take over the nursing classes, Ellen was still able to find time in her schedule to take her share of the tuition.

157Guyton. 'How Nursing Came to Bhiwani'. p. 15.
158Guyton. 'How Nursing Came to Bhiwani'. p. 15; Benzie, J. 'Bhiwani Today'. *Fifty Years for Bhiwani Hospital: The Farrer Jubilee.* p. 16.
159Farrer. *Fifty Years.* p. 9.
160Farrer. Personal Diary. (December 3, 1893).

'Dispensary and a visit to a badly burned girl who I admitted to the hospital. Operation for a dilation and curettage, and four new patients, then did the nurses class. Committee meeting in the evening' and 'Called out to a confinement and had to do a craniotomy. Hospital rounds and an operation for dilation and curettage. Two visits and the third year nurses anatomy class. Out to a miscarriage, back at 10.30 pm'.[161]

Training of compounders or dispensers had been one of the first activities instigated by Ellen after her arrival in 1891, beginning with Jane and then Rebekah. In later years, when the contingent of staff at Bhiwani had grown, it became possible to expand the tuition of compounders and admit more than one trainee at a time. There were never more than two or three apprentice compounders under instruction however, and Ellen retained the responsibility for this 'class', in addition to her contributions to the nurses training.[162] Bhiwani also taught midwifery, although the students who enrolled were not the hereditary dhais whom Dr Bisset targeted in 1917. These girls were usually orphans or mission converts, although sometimes the mission got an application from a private family. Midwifery classes were held in the compound, and the students were also required to accompany Ellen and the other doctors to private cases, before eventually taking the nurse-dhai examination of the Punjab Central Midwives' Board.[163] The reputation of Bhiwani grew, and the station began to attract applicants from the surrounding district and beyond who wished to learn nursing, midwifery, and compounding. This even included a converted Pathan, who came to learn nursing in 1909.[164] Some of the letters of

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[161]Farrer. Personal Diary. (January 16, 1915), (December 21, 1925).
[162]Farrer. Personal Diary. (December 18, 1922), (January 25, 1923), (December 3, 1924); Letter from Ellen to her Sisters. (February 27, 1923). Bisset. 'Story of the Farrer Hospital'. p. 10. There was 'just Asmani' in February 1917, still only 2 in February 1923, and a photograph of the compounders class in 1937 features just three students.
[163]Letter from Ellen to her Sisters. (January 29, 1917), (August 25, 1923), (September 7, 1923), (April 7, 1925). This was the association for whom Ellen translated the book on midwifery.
[164]Farrer. Clinic Diary. (September 10, 1909). She may, however, have been sent to Bhiwani to escape retribution for conversion, since the Pathans were a particularly martial tribe and given to somewhat savage practices.

application survive in the Farrer archive, including one from a municipal clerk anxious to persuade Ellen to accept his daughter as a trainee compounder, and another from a young convert from Hissar called Julia Violet Moses, who had completed some nursing training at a Dufferin Hospital, but wished to transfer to Bhiwani to study midwifery.[165] There was a predominance of Christian converts among the apprentices and trainees admitted to Bhiwani, and they frequently, though not invariably, adopted an English name upon baptism in preference to their Indian birth name. Ellen commented on this phenomenon in 1917, writing to her sisters

> 'two new trainee Indian nurses arrived to finish their training here. We now have 2 Evelyns, a Violet, a Tabitha, an Angelina and a Seraphina, as well as our two nurses, Polly and Caroline. There are only four with real Indian names now - Kariman, Jarmat, Sadali and Chandimari, plus Asmani who is learning compounding'.[166]

Despite the commitment and effort of the mission personnel to establish thorough and effective methods of instruction, not all the nurses accepted were successful. Some displayed a complacent or casual approach, one group provoking Ellen into writing 'only one of the three nurses passed the exam. It is not surprising as they are not good practically and are very self-satisfied'.[167] Another prospective nurse was so beyond redemption that she was returned from whence she came: 'we are sending the nurse who rejoices in the name of Seraphina back to her people because she is useless and troublesome and we have detected no sign of seraph in her!'[168] However, even those who came to Bhiwani with prior experience could cause considerable concern. Among this partially trained category was Lily, who arrived

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[165]Letter from H L Lee to Dr Farrer. (April 24, 1924); Letter from Julia Violet Moses to Dr Farrer. (March 19, 1927).
[166]Letter from Ellen to her Sisters. (February 15, 1917).
[167]Letter from Ellen to her Sisters. (March 26, 1917).
[168]Letter from Ellen to her Sisters. (April 9, 1917).

fresh from two years of training at Calcutta, but was 'not very quick or very well trained'.[169] More worrying still was the case of the new trainee in 1917, who had supposedly had 6 months training but exhibited a singular lack of common sense and basic hygiene:

> 'A case came in of a small child with an extra finger, all shrivelled and needing amputating after having been tied up with threads. The new nurses have supposedly been trained for six months, yet I was shocked when I gave one of them an order to snip the threads whilst I prepared the instrument tray for the operation. When I looked back she had taken the scissors and snipped off the digit! She had not understood what I said and not thought to check it, so had gone ahead deliberately regardless.'[170]

Sister Guyton was by no means satisfied by the standards attained in 1937, although she regarded the future as hopeful 'there is still much work to be done (our nurses are by no means perfect), but we do thank God for what has been accomplished in the comparatively short time and take courage for the future.'[171]

Imparting medical skill was not, however, the sole purpose of training the native girls. The mission staff also sought to 'help them in the development of Christian character', since the Indian nurses had 'the responsibility of handing on the torch to others, of imbuing the nursing profession with the Christian ideals that it may reach the highest standard possible'.[172] A somewhat more machiavellian interpretation was offered by a newly arrived English nurse in 1913, who wrote that 'discipline seems to hold very little sway in our hospitals ... at home, if a nurse is insubordinate she is dismissed; but here we are responsible for the moral welfare of our girls, and our object is to keep them tender and sympathetic so that they may obtain an influence over the patients even greater than ours'.[173] This attitude was undoubtedly

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[169]Farrer. Personal Diary. (December 3, 1908).
[170]Letter from Ellen to her Sisters. (February 20, 1917).
[171]Guyton. 'How Nursing Came to Bhiwani'. p. 15.
[172]Guyton. 'How Nursing Came to Bhiwani'. p. 15.
[173]Rawson, Margaret. 'First Impressions'. *The Missionary Herald.* (1913). pp. 333-334, p. 333.

part of the evangelical philosophy and work of the mission hospital, but it suggests that Seraphina's crimes must have been extreme for her to be sent away. However, the cases of Margar Begami, Rebekah and even the notorious Miss Scoresby suggest that Christian forgiveness did not extend beyond moral laxity.

Bhiwani Hospital succeeded in establishing reputable training in nursing, midwifery and compounding, overcoming the financial, philosophical and managerial obstacles that had caused other schemes to falter or fail. Nevertheless, during the entire 42 years of Ellen's service in India, not one Indian doctor came to train or work at Bhiwani. Natives could qualify as sub-assistant surgeons at the Ludhiana School, and Bhiwani offered practical experience and employment in this category. Indeed, Ellen had advocated the need for this class of assistants in a conference paper as early as 1902, but there was no native doctor employed at Bhiwani until 1936.[174] This is not to suggest that the Bhiwani missionaries were hostile to the introduction of medical training for native women, but there were very few places where native women could actually obtain a medical degree and the facilities at Bhiwani or any other mission were certainly not adequate or suitable for the study of the MD.[175] Thus, the acquisition of an Indian doctor for Bhiwani would have been extremely difficult prior to the 1930s, and even female sub-assistant surgeons were hard to obtain and not necessarily of the highest calibre. The first sub-assistant surgeon employed at Bhiwani was a Miss Singh in 1918, who 'did not

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[174]Farrer. 'Red Letter Days at Bhiwani'. p. 263; Farrer. Personal Diary. (October 24, 1902). The paper was for the Madras Medical Conference and was entitled 'The Training of Native Assistants'.
[175]The Lady Hardinge College in Delhi was established to meet this need, and to provide tuition by women for women. The qualification was equivalent to the MBBS of Punjab University, but the other all female medical schools and colleges offered only classes for sub-assistant surgeons. In the North, where purdah was more prevalent, the necessity for female instructors and segregated teaching was higher, since *purdah nishin* would not be permitted to attend any classes or institutions where men were present. Women were admitted to the universities in Madras, Bombay and Calcutta in the late nineteenth century, where they were taught by men and sometimes alongside men. The table on page 83 shows the extent of provision in 1928, although the figures for the universities are not divided by sex.

seem over-confident or hard-working'.[176] Despite the difficulties caused by arduous schedules and the occasionally languid student, Ellen was proud of the achievements of the mission in the educational field. In 1901, she had given a speech to the Medical Women's Association in London, in which she described the ignorance of nursing techniques and skills among the natives, stating that they lacked even a fundamental appreciation of basic hygiene and 'had no knowledge even of special cookery for the sick or of the need to force nourishment such as milk on a patient against her inclination'.[177] Thirty-three years later, in a speech to the Steward's Hall, she emphasised the role of training: 'missionaries do excellent work in training natives as nurses, midwives and compounders'.[178] The missions were recognised by professional, independent observers as the pioneers of medical training for natives and, even in 1929, the majority of native nurses, midwives and sub-assistant surgeons owed some part of their tuition to a mission hospital. The formation of the United Exam Board also provided a recognised standard of qualification for nursing, which was beneficial for nurses wishing to move into secular hospitals and later, vital for those wishing to obtain accredited registration. Bhiwani was a principal centre of training in North India, and the growth of the educational syllabus at the station offers evidence of how the missions developed their reputation. Whereas the Dufferin Fund and municipal schemes perceived the establishment of significant infrastructure and an abundant clientele as a pre-requisite for any such venture, the mission stations operated on a much smaller scale. They sought instead to cultivate basic training alongside the dispensary and hospital practice, and when the latter began to flourish, they were able to increase the cohort of nurses and nurse trainees and extend the boundaries of training. In

[176]Letter from Ellen to her Sisters. (November, 1918). Josephine Yaqub, a convert of the Bhiwani mission and Ellen's arithmetic student, was a different prospect. She trained as a sub-assistant surgeon at Ludhiana and worked at Bhiwani hospital for some years, being very highly regarded.
[177]Farrer, Ellen. 'Medical Work in the South East Punjab'. *Lecture given to the Association of Medical Women at the New Hospital, London.* (May 7, 1901).
[178]Farrer. 'The Medical Work of Missions'. (February 5, 1934).

addition, the missions relied on native help from the outset due to the minimalist approach to European staffing, and they also had a captive community from whence to recruit potential nurses. In contrast, the Dufferin hospitals tended to rely on European staffing which perhaps lessened the incentive to train native girls. The *ad hoc* approach of the missions was adequate to an extent, but the initiation of *proper* nursing training for Indian girls necessitated the addition of trained English nursing sisters to the mission hospital staff. Nevertheless, the missions used the English nurses sparingly, and chiefly as an agency to educate the natives, whereas the Dufferin hospitals tended to deliberately recruit their entire nursing cadre from European candidates.[179]

The trainees at Bhiwani, as at most mission stations, were mainly drawn from converts and orphans. This was not a product of coercion, but simply one of reciprocal necessity. The converts needed work since they were often no longer able to live within their community, while the orphaned or abandoned children left at the mission needed both an education and the means to attain a livelihood. This was particularly important for the girls, who would have no family members to arrange a marriage for them, and would, therefore, need to be entirely self-reliant. Access to basic education and the opportunity to train as nurses, evangelists or teachers gave the orphans, at least, a better chance of survival than they would otherwise have had. It was, however, not only the native community who benefited from the training opportunities afforded by the mission hospitals. Ellen also saw India and the missions as offering a wealth of potential experience to young doctors in England, who needed to gain instruction and practice in various operations. Responding to a question raised at the AMW lecture about the possibilities for young practitioners to develop their skills in minor gynaecological surgery, Ellen recommended India and missionary work as a tutor: 'Opportunities in India are

[179]Farrer, Ellen. 'Letter from Bhiwani'. *The Missionary Herald.* (February, 1913).

plentiful, not just for minor operations but for more serious ones too', and despite the reluctance of some natives to undergo surgery 'opportunities of the kind under consideration are far more plentiful in India than at home'. She did however warn that 'experience is the only instructor there and you have to learn from failures which none of us would consider a pleasant method, however effective'.[180] This sentiment argues a somewhat cavalier attitude towards the Indian patients who were to be exposed to the surgical inexperience of the novices; and also appears to contradict Ellen's sentiments expressed in 1891, when she denounced missionary societies for sending any but the best trained doctors to India lest they damage the patients and thereby the reputation of the Christian west. Nevertheless, her advocacy of India as a learning ground perhaps reflects the lack of post-graduate experience available to young female doctors, even in 1901, and the highly competitive nature of medical practice in England. Ellen herself went to India well-qualified and with some post-graduate seasoning, but the harsh reality of isolation from professional colleagues meant that errors in judgement went uncorrected except by the hand of fate.

This professional isolation did lessen over the course of Ellen's Indian career. The addition of a second doctor to Bhiwani did much to alleviate the burden of responsibility, and the inspection of hospitals initiated by the BMS, and later the AMWI, also provided a sense of community among the European medics in India. For example, the first MMA inspection by Dr Fletcher Moorshead in 1905 provided Ellen with both professional appreciation and material support. Rather than the pique and chagrin caused by the civil surgeon inspections of the Dufferin facilities, Ellen felt nothing but pleasure in Dr Moorshead's 'all too short visit'. Nor was his role purely supervisory, and he did much to secure the funds needed for the

[180]Farrer. 'Medical Work in the South East Punjab'.

extension of the hospital in 1907.[181] This visit was the first of many inspections by various agencies including Dr Balfour for the AMWI in 1915; a 'lady doctor appointed to inspect women's hospitals' for the Government in 1917; Miss Scott of the WMS who came to inspect the hospital and the dhais in 1919; an inspection by an unspecified agency in 1924; Major Watson, Chief Medical Officer of the Rajputana States and the Chief Medical Officer of Dholpur on behalf of the Government in 1928; and the Inspector-General of India in 1933.[182] These later inspections were compulsory and not always conducted by female inspectors, which was a source of potential anxiety for a purdah hospital. For example, Major Watson 'gave half an hour notice of his arrival ... although as it happened we had only two really purdah cases and they were given due warning and covered themselves from view'.[183] This type of 'spot inspection' had been one of the major grievances among detractors of the Dufferin scheme, who had complained bitterly of the subjugation of the female staff to the civil surgeon. Ellen, however, showed no evidence of rancour or resentment even over this, although her sangfroid may have reflected the occasional nature of such visits. The visit of the Inspector General in 1933 elicited a degree of displeasure, but far from being caused by a sense of violated prerogative, she was instead affronted because he had devoted so *little* time to Bhiwani. Ellen evidently attached value to the outcome of these inspections, exhibiting moderate delight that the Inspector-General 'seemed very pleased with us'.[184] The missions were not under any negotiated obligation to the civil surgeons, but there was necessarily some traffic of business between them, particularly in later years when Government and Municipal powers began to take a greater interest in

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[181]Farrer. *Fifty Years*. p. 8.

[182]Farrer. Clinic Diary. (August 19, 1915), (February 19, 1919); Farrer. Personal Diary. (January 30, 1924); Letter from Ellen to her Sisters. (January 25, 1917), (January 29, 1928), (February 26, 1933).

[183]Letter from Ellen to her Sisters. (January 29, 1928).

[184]Letter from Ellen to her Sisters. (February 26, 1933).

and responsibility for the medical services.[185] Nevertheless, the missions were never forced to concede any authority to the civil surgeon in terms of inspection or the control of surgery, although both the distribution of serum and vaccine and jurisdiction of all medical protocols during epidemic outbreaks was vested in the civil surgeoncy.[186] For example, in 1903, the local civil surgeon visited Bhiwani mission to 'have a talk about the plague', and in 1904, Ellen 'wrote to the civil surgeon and destroyed the plague serum as ordered'.[187]

Relations between local hospitals and the civil surgeon varied according to the nature of the association and the attitudes of those involved, and Bhiwani was fairly unexceptional in being able to maintain generally harmonious co-operation with the staff at the Government hospital as well as the civil surgeon himself.[188] Indeed, Ellen records a certain amount of consultation on cases between the Government dispensary and the mission hospital, and there does appear to have been a total absence of rivalry between the two establishments. Ellen was often called to the Government hospital to attend a patient, and this perhaps reflected the increasing gulf in experience as time went on. Ellen remained at Bhiwani, while the civil surgeons served for a specified period before being replaced - often by a younger and less experienced officer who would almost certainly lack her expertise in female related cases. For example, in 1931 'a doctor from the Government hospital came to get me to see a special case in consultation with him before breakfast'.[189] References to cases at the Government hospital occur throughout the diaries and letters, although the traffic was by no means one-way and Ellen frequently referred cases to the Government hospital where the facilities were more advanced.[190]

185This is reflected in the increased level of inspection in the later years of Ellen's time in Bhiwani.
186Letter from Ellen to her Sisters. (January 28, 1918).
187Farrer. Personal Diary. (October 31, 1903), (September 20, 1904).
188Even in the Dufferin hospitals relations tended to remain cordial, although a certain amount of friction prevailed over the issue of purdah and the practice of surgery.
189Letter from Ellen to her Sisters. (March 16, 1931).
190Farrer. Personal Diary. (March 15, 1902), (3 June, 1909).

However, as time went on, she had to abandon this procedure since the patients almost invariably failed to follow her advice, and she was therefore all the more eager to establish a properly equipped hospital at the mission.[191] She did continue to use of the facilities at the Government institution where possible, since, even in 1925, they were significantly more advanced than those at the mission and were able to afford the acquisition of such apparatus as x-ray machines.[192] Ellen also had access to the facilities and expertise of the Central Research Institute at Kasauli, where she sent bacteriological specimens for analysis.[193] On a personal level, Ellen had nothing but praise for the second civil surgeon of her acquaintance, Captain Courtney, who was helpful, prompt and reliable in his dealings with the mission.[194] Dr Meta Ram, who was appointed at some point in the 1920s, was regarded with equal favour, especially in view of his help in the construction of the hospital in 1923 and his endeavours to gather funds for the pathological laboratory in 1929. Hence, in her report on the opening of the new wards in 1928, Ellen paid tribute to 'Dr Chaudri Meta Ram, our genial civil surgeon, who has helped us very magnificently and has earned our great appreciation'.[195] Indeed, Ellen's relations with him were characterised by a mutual admiration so marked that he sent for her when his precious only child became ill: 'I was called to see the civil surgeon's baby which had jaundice and having lost a previous baby to that they were in a scare'.[196] This attendance was reciprocal, and Ellen was twice indebted to the civil surgeon for prompt attention to her own ailments. In 1909, Major Wilson was called to

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[191]Farrer. *The Medical Work of Missions.*
[192]Letter from Ellen to her Sisters. (March 25, 1925).
[193]Farrer. Personal Diary. (November 20, 1909). The CRI was established in 1905, absorbing the Pasteur Institute - which had been established with civilian and military funds - and the Army laboratories set up in 1893 and 1899 respectively. Ellen sent blood samples there in 1909 for verification of dengue fever, although the mission eventually acquired it's own pathological laboratory in 1929.
[194]Letter from Ellen to her Sisters. (January 11, 1918).
[195]Farrer. *The Opening Ceremony of the New Private Wards*; Letter from Ellen to her Sisters. (September 26, 1928).
[196]Letter from Ellen to her Sisters. (September 23, 1928).

attend her and made her 'feel rather small, though he was pleasant and careful enough'; and in 1915, the estimable Captain Courtney was 'wired for', when Ellen became afflicted with a septic finger whilst coping alone at the station.[197]

However, despite the generally amicable nature of the proceedings between the civil surgeon and the mission, there were occasional sources of discord. The Lady Hailey Zenana Hospital was one such issue. It was endowed by a wealthy Indian merchant, but supported by Dr Meta Ram who regarded the provision of a non-sectarian hospital for women in a distinctly favourable light. However, his intentions towards the mission remained gracious and he did not envisage the Lady Hailey eclipsing the Farrer Hospital, but rather that a co-ordination of effort could be established which would be beneficial to both.[198] Ellen attitude was understandably somewhat less benign, since it must have been galling to see money lavished on a rival hospital when both municipal and mission grants to Bhiwani were being cut. The tenor of satisfaction in her remarks about the slow building process and the lack of a female doctor, though decidedly unchristian, was undoubtedly prompted by fear that they could lose the mission entirely if the Lady Hailey hospital was a success.[199] Disharmony again marred the normally cordial relations between the mission and the civil surgeon, when Captain Courtney was replaced by a Moslem official who 'was not so prompt and reliable' and who failed to supply the mission with sufficient plague serum or to rectify the error with any great speed. Ellen regarded this as less indicative of incompetence than deliberate malevolence, and wrote 'I think that he and the assistant surgeon are jealous of us and that is why the delays occur'.[200] This may have been true, but it may also have been a rare local reflection of the beginnings of the anti-British feeling in India.

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[197]Farrer. Personal Diary. (December 10, 1909), (March 30, 1915).
[198]Letter from Ellen to her Sisters. (September 23, 1928).
[199]Farrer. *Story of the Farrer Hospital*; Letter from Ellen to her Sisters. (September 3, 1928), (March 18, 1930), (April 6, 1930).
[200]Letter from Ellen to her Sisters. (January 28, 1918).

Bhiwani seems to have suffered little from the nationalist movement, although Ellen had complained of the attitude of the Municipal committee and was not impressed by the gyrations of Mr Gandhi.[201]

The Bhiwani mission hospital vindicated the BMS venture into medical missionary work entirely, and the Farrer hospital was a tribute to both the missionary society itself and to Ellen for her 42 years service. Her various writings show a determined and vigorous woman, involved in every aspect of missionary labour from evangelical preaching to financial juggling, and who was willing, even eager, to extend her energies into the wider realm of secular organisation and native education. The chronological canvas of Ellen's life in Bhiwani has been marked here by a few brief brush strokes depicting the essence of her work and the extent of her energies and capabilities, but the succeeding chapter aims to fill in the foreground of the picture with the detailed intricacy of day to day life at the mission and the realities of medical practice in a foreign land. Ellen's legacy of correspondence and memoirs provides a rare glimpse of the reality and experience of this medical work in India, and of the myriad diseases and difficulties attendant on such an undertaking. Her forthright commentary gives brief but illuminating views of the attitude of western 'civilisation' in contact with alien Eastern culture.

[201]Letter from Ellen to her Sisters. (August 16, 1921), (March 30, 1930).

Chapter Five

CULTURAL CONSTRAINT AND THE REALITY OF PRACTICE: ELLEN FARRER AT BHIWANI 1891-1933.

Cautious but curious, only two patients presented themselves at Ellen's dispensary on November 12, 1891. When she left Bhiwani in 1933, the hospital wards were overflowing, all the private rooms were occupied apart from the one set aside for European patients, the mission doctors were receiving frequent and regular calls to confinements and other emergencies in both the Town and outlying countryside, and the dispensaries were treating an annual out-patient quota in excess of 36 000.[1] The flourishing success of the Bhiwani mission owed much to Ellen Farrer, but it also reflected a positive view of the colonial presence. For the most part, the Bhiwani mission hospital was regarded as both benign and benevolent, and fear of the underlying evangelical agenda was rarely pronounced enough to deter those seeking medical aid.[2] This is undoubtedly a tribute to the ability of the mission doctors to successfully integrate medicine and evangelism, whilst keeping the latter element sufficiently muted to avoid offence or repulsion. Indeed, Ellen and the other personnel were scrupulously careful to represent medical care as distinct from and unconditional on any religious submission, and although eager to spread spiritual guidance and evangelical enlightenment, the activities pertaining to religion were proffered on a strictly voluntary basis. It is difficult to see how a bedridden patient could possibly have avoided exposure to the daily religious

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[1]Farrer, Ellen. 'Red Letter Days at Bhiwani'. *The Missionary Herald.* (November, 1937). pp. 261-263, p. 263; Farrer, Ellen. *Fifty Years for Bhiwani Hospital: The Farrer Jubilee.* Baptist Missionary Society Publication. (London, 1941). p. 16. Although the Farrer Hospital had accommodation for 65 in-patients, the number under treatment was often as high as 80.

[2]The anti-British posture of the Congress Wallahs on the Municipal Council notwithstanding, the general attitude of the local population appears to have been fairly positive toward the mission and the missionaries.

services that took place actually in the hospital, but there was certainly no attempt by the missionaries to force conversion[3] nor any lessening of vigour in the medical attention bestowed on the staunchly resolute Hindus and Moslems who sought help at the mission.

Success in the mission field had no guarantees, and Ellen had needed patience, skill and tact to secure a future for the first Baptist medical mission. Although she firmly believed that western medicine was beneficial, if not vital, to the natives, she was neither blind to the innate hostility such an endeavour could provoke nor unaware of the less than altruistic motives behind some of the belated support the mission received.[4] Such motives were often highly pragmatic. Ellen related one example involving the male population of a town in India, who besieged a Government official pleading for a women's hospital to be established in their area and even pronounced themselves willing to bear some of the building costs. This apparently progressive and positive attitude towards western science was, however, revealed to be guided less by humanitarian sentiment than financial consideration. The men were willing to pay simply because the pecuniary investment in second and third marriages caused by the excessive mortality rates amongst their womenfolk, made financing a hospital comparatively economical. Ellen regarded this tale as symptomatic of the 'quaint attitude and stance of the Eastern husband', and illustrative of the pitfalls surrounding the medical treatment of women in India.[5] Further difficulty arose from the suspicious antipathy to imperial medicine evident in some quarters. 'At home, all imagine that all Indian women would welcome

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[3]Miss Scoresby's activities were, perhaps, the exception, although her swift dismissal evidences the commitment of the BMS and Bhiwani mission to non-coercive tactics.

[4]Farrer, Ellen. *Report to the Medical Mission Auxiliary.* (April, 1906). Moreover, she felt that it was vital 'to expose India to the wonders of western civilisation whilst the window of opportunity lasts' and that it was especially important in Bhiwani where the only westerners there were the missionaries.

[5]Farrer, Ellen. *Report to the Medical Mission Auxiliary.* (April 25, 1912).

western medicine', wrote Ellen in 1897 and, indeed, she found some native women receptive and grateful for surgical science. However, the majority were much less compliant and there was 'an almost incredible amount of ignorance, superstition and prejudice, and a remarkable capacity for unreasoning panic'.[6] Ellen had to exercise extreme forbearance, patience and perseverance in order to coax the prospective patients to treatment, and she thus experienced 'much sadness in being unable, through prejudice and superstition, to help those who we *could* help and *would* help.'[7]

Ellen needed medical skill and diplomatic talent in equal measure to establish her reputation and win the trust of the natives. They were not easily captivated, however, and the early days at the dispensary featured an intermittent traffic of curious and chronic cases, and it seemed to Ellen that 'they were bringing all the chronics and incurables to the dispensary to test my skills'. She also found that the women 'were at first disposed to bring me their infants to experiment on before venturing to try my treatments themselves'.[8] Some were merely prompted by idle curiosity, even coming from some considerable distance to test the 'foreign lady doctor' with a trivial ailment and Ellen found that many of these patients, having assuaged their curiosity, subsequently went elsewhere for treatment. Her novelty value, nevertheless, kept dispensary numbers buoyant, even after the hospital had been in Bhiwani for over two decades.[9] Indeed, it was still noticeable in 1925 that 'the Mohammedans seem to gather up family parties to come to the hospital, four or five of whom can produce an ailment of some kind'.[10] Ellen suspected that these groups were guided by the normal element of curiosity and also by a desire for a

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[6]Farrer, Ellen. *Report to the Baptist Missionary Society.* (April, 1897).
[7]Farrer. *Report to the Medical Mission Auxiliary.* (April, 1906).
[8]Farrer, Ellen. *The Story of the Farrer Hospital.* (Unpublished manuscript, 1928).
[9]Farrer, Ellen. Personal Diary. (January 29, 1892); Farrer, Ellen. 'Bhiwani'. *The Missionary Herald.* (1896).
[10]Letter from Ellen to her Sisters. (May 24, 1925).

holiday. Their behaviour could, however, be ascribed to financial motives, since it was more economical to 'save up' ailments until there were enough to make the expense of travel worthwhile. This prevalent attitude of tentative curiosity was counterbalanced by an equally common and almost pathological fear of the unknown, and Ellen reported countless cases of patients fleeing in terror at the sight of items as innocuous as watches, thermometers and stethoscopes.[11] This early exposure to the precarious unpredictability of practice left an indelible impression on Ellen, and even in later years when the hospital was built and the practice was flourishing, she remained prone to anxiety about the capricious tendencies of the natives. Hence, during a quiet period in 1917, she wrote 'the hospital is slack just now and we probably should be grateful for the respite, but as time goes on I start to fear that some false rumour is keeping the patients away'.[12]

Nevertheless, from meagre beginnings, attendance at the hospital and dispensary grew steadily over the forty-two years of Ellen's service. Patients came from great distances to visit the hospital, especially as time passed and the reputation of the mission grew. In 1904, Ellen catalogued patients coming from villages up to 40 miles away, and the widespread catchment continued to develop over the years.[13] Thus, in 1932, the statistical returns for in-patients revealed that 555 of the 1 107 in-patients treated, came from 191 different outlying towns and villages.[14] Unfortunately, the archive material left by Ellen Farrer does not include the annual hospital statistics, but there are frequent references to the level of clinic attendance contained in her diaries, and occasional figures incorporated in her reports to the BMS. Hence, her diary reveals that two patients attended on the first day of

[11]Farrer. *Story of the Farrer Hospital*; Farrer. *Fifty Years*. p. 4; Farrer. Personal Diary. (December 11, 1891), (February 12, 1892).
[12]Letter from Ellen to her Sisters. (April 30, 1917).
[13]Farrer. 'Letter from Bhiwani'. *The Missionary Herald*. (August, 1904).
[14]Farrer, Ellen. *The Medical Work of Missions*. (February 5, 1934). Speech given to the Steward's Hall.

practice, and a month later, she records her first in-patient admittance.[15] The first annual return yielded 9 223 out-patients, with a record attendance of 60 patients at a single dispensary in March 1893. These figures prompted the Municipal Committee to crown the venture a success, with a donation of Rs 40.[16] By 1895, Ellen was recording frequent daily attendances of around 50 patients, and regarded this as signifying that the practice was sufficiently well established to warrant a hospital.[17] The 50 patient standard remained fairly steady over the next few years, although there were daily fluctuations caused by the weather, religious holidays and weddings.[18] For example, patient numbers were low in January 1895 'probably on account of the cold and mátá puja'.[19] Rain was similarly prohibitive: 'shower early on - half an inch of rain and consequently few patients', 'number of patients is very low on account of a deluge of rains', 'tremendous rain, so we got a holiday of sorts'.[20] Ellen also made frequent reference to the Hindu festivals of Kanaigat and Sanskraut, the Moslem festival of Diwali, and to certain holidays termed merely 'Holi day'.[21] Weddings could also cause the numbers to plummet: 'Not many patients - lots of weddings on'.[22] Nevertheless, the overall trend in attendance was upward and, by 1913, Ellen was able to record that 90 patients had attended at the daily dispensary.[23] This was certainly something of a high point, but figures of 70

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[15]Farrer, Ellen. Clinic Diary. (November 13, 1891), (December 10, 1891).
[16]Farrer. *Fifty Years*. p. 6.
[17]Farrer. Clinic Diary. (November 1, 1892), (September 30, 1895).
[18]Farrer. Personal Diary. (May 2, 1902), (January 20, 1902). For example, during 1902, numbers ranged from a noticeably low attendance of 34 to a peak of around 50. Numbers dropped during festivals and marriages, and during the monsoons when there was heavy rain.
[19]A festival for the smallpox goddess. Ellen also ascribed low attendance to the cold weather in 1930. 'Hospital is slack because of the cold weather - only the septic surgery ward is full'. Farrer. Personal Diary. (January 15, 1895), (January 5, 1930).
[20]Farrer. Personal Diary. (August 22, 1898), (September 29, 1917); Letter from Ellen to her Sisters. (September 23, 1917).
[21]Farrer. Personal Diary. (January 12, 1893), (October 17, 1895), (December 2, 1896), (January 12, 1898), (January 15, 1899), (March 6, 1909), (November 20, 1909). 'Popular Hindu festival, but got 31 patients in spite of it - mostly Mohammedans'; 'Fewer patients, perhaps on account of Kanaigat'; 'Hindu festival of Sanskraut, but over 20 patients in spite of it'; 'Sanskraut festival so few patients'. She also referred to the effects of the Hindu fast.
[22]Farrer. Personal Diary. (May 2, 1902).
[23]Farrer. Personal Diary. (June 6, 1913).

and 80 were increasingly noted in the coming years.[24] The next benchmark was reached in 1917, when Ellen nonchalantly reported 'big attendances at the hospital now - 70-100 a day'.[25] In-patient totals were also increasing, reaching a record of 71 in 1930. The general total continued to exceed 60 throughout Ellen's remaining time at Bhiwani, and regularly peaked at 80 plus during the hot season.[26] This was especially significant, given that the hospital only had beds for 65 patients.[27] Annual figures for Bhiwani hospital are sporadic, but in 1914 the hospital treated 19 000 out-patients and performed 346 operations; ten years later, in 1924, the numbers seen were 29 707 out-patients, 432 in-patients, and 486 operations performed.[28] By 1932, in-patient numbers had risen so significantly that Ellen anticipated the total for the year reaching a record of 1 000 admissions. This target was reached and exceeded in 1936, when 1 682 in-patients were treated.[29]

DAILY LIFE AT BHIWANI MISSION STATION

From the day that Ellen first began to treat patients, ensconced behind a rickety desk in the garishly frescoed rooms of the city house, the Bhiwani practice flourished. However, her medical work took place amid the daily routine and trivia that surrounded her life in India, and it is vital to explore this periphery in order to appreciate the reality of the European existence at Bhiwani. Ellen's day typically began at about 5.30 a.m., with the dispensary opening at 9.[30] In the early years, both the dispensary and any visiting could be accomplished in a morning, leaving the afternoon free for Ellen to continue her language study and complete the

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[24]Farrer. Personal Diary. (August 3, 1914), (May 31, 1917).
[25]Letter from Ellen to her Sisters. (April 30, 1917).
[26]Farrer. 'Red Letter Days at Bhiwani'. p. 263; Letter from Ellen to her Sisters. (April 13, 1930), (April 20, 1930), (August 23, 1932).
[27]Farrer. 'Red Letter Days at Bhiwani'. p. 263.
[28]'Medical Missions' *The Missionary Herald.* (1914); 'Medical Missions'. *The Missionary Herald.* (1924).
[29]Farrer, Ellen. 'Bhiwani'. *The Missionary Herald.* (October 31, 1932); Farrer. 'Red Letter Days at Bhiwani'. p. 263. There had been 935 admissions by October 1932.
[30]Farrer. Personal Diaries. *passim.*

administrative work. Thus, an entry in 1892 reads 'saw an old woman with scirrhus of the breast on the way to dispensary. Did dispensary. Called from Munshi's lesson to an unnecessary summons. Finished register'.[31] However, even by 1898, the idyllic leisure time had been curtailed as the practice became more extensive and the routine more demanding. Even so, the 'day and a half' she experienced then was negligible in comparison to the hectic schedule of later years: 'busy all morning at the hospital and had a battle of wills with a girl who was hysterical. Operation in the afternoon for a sarcoma of the bowels in a boy of 4½, but it proved too extensive to remove. Compounders class after tea, and went to visit a patient'.[32] The mission compound and bungalow were located outside the town, so Ellen had to travel to the dispensary each day by bullock-cart.[33] The pace of medical work was already fairly swift by 1895, but the expansion of the staff at Bhiwani ensured that there was still time for Ellen and her colleagues to enjoy some leisure pursuits.[34] The evenings at the mission house were typically spent in domestic industry - hospital and patients permitting - such as jam-making, bottling fruit, embroidery, dress-making and painting, with the accompaniment of reading aloud from novels or occasional spiritual literature.[35] In 1910, the variety of pursuits was enhanced by tennis and the staff conducted tournaments during the cooler weather. This pastime proved so popular that the mission eventually built its own court in 1929.[36]

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[31]Farrer. Personal Diary. (January 15, 1892).
[32]Farrer. Personal Diary. (November 28, 1898), (January 25, 1923).
[33]In later years, when the practice was considerably larger, the loss of time engendered by this travel to and from the city was a considerable handicap to the clinic and hospital schedule.
[34]Particularly after 1901, when the burden of medical responsibility was halved by the acquisition of a second doctor.
[35]Farrer. Personal Diaries. *passim.*
[36]Farrer. Personal Diary. (August 16, 1910), (January 20, 1913). Letter from Ellen to her Sisters. (January 20, 1929). Ellen does not make clear exactly where they played prior to this.

All these activities were quintessentially English and middle class, and the Bhiwani missionaries made few concessions to the Indian climate or culture in terms of dress, accommodation or hobbies. Indeed, Ellen and her English co-workers were determined to make an oasis of civilisation in what they saw as a desert of heathen backwardness. The mission bungalow was decorated in a strictly European manner, complete with annually renewed whitewash; and Ellen and her colleagues wore similarly uncompromising attire, favouring high-necked victorian blouses and long skirts.[37] The nurses, both English and native, were garbed in typical European style nursing uniforms - complete with caps, while Ellen herself took to wearing a long, fitted white uniform for work in later years.[38] Much of this cultural rigidity was symptomatic of the colonial attitude of superiority, but it was also perhaps illustrative of the loneliness and sense of isolation experienced by Ellen and the others. To all intents and purposes they were stranded and marooned in an alien environment, and they therefore strove to adapt by tempering the exotic surroundings with the familiar accoutrements of English society and western expectation. The loneliness and isolation could be overwhelming, and Ellen bewailed the conditions on at least one occasion: 'I know what it is to suffer heat, loneliness, malaria, and disappointment in native helpers'.[39] This feeling of exile necessarily fostered a close-knit sense of community among the Bhiwani missionaries, who were heavily reliant on one another for morale and companionship.[40] This was particularly important in the early years, when the mission comprised just the three of them, Ellen, Annie and Isabel. The loss of one member on furlough or secondment was a serious deprivation in these

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[37]Farrer. Personal Diary. (September 21, 1892).
[38]Photographs contained in the archive material show both Ellen and the staff in typical dress, and also show some of the furnishings of the bungalow. Unfortunately, these photographs did not copy particularly well, although one depicting the staff is reproduced on the following page, and Ellen is shown wearing her white 'uniform' in the frontispiece.
[39]Farrer, Ellen. *Report to the Medical Mission Auxiliary.* (April, 1906).
[40]All of which made the antics of Miss Scoresby more distressing.

THE MEDICAL STAFF AND TRAINEES AT BHIWANI, 1923.

circumstances, and thus, when Isabel Angus was sent to Bankipur for 6 months in 1897, Ellen found it 'very strange - not nice' without her.[41] Contact with home was vitally indispensable, although communication relied on the slow mails brought by ship from England. Ellen had a formidable list of correspondents whom she wrote to regularly, and in the front of each of her diaries are long columns of letters which she had written and received over the course of the year. Her communication with her family was especially frequent, and the letters to her sisters form a large part of the archive material. Equally, when on furlough or secondment to another hospital, Ellen remained in contact with Bhiwani through the medium of correspondence.[42] Given the emotional importance of letters from home, it was unfortunate that the mail was not only slow but erratic and unreliable, and Ellen frequently gave vent to frustration and disappointment over an elusive package or misdirected letter: 'the mails are so very erratic', 'the mail arrived this afternoon, but not my home letters, so I am afraid it has gone wandering up to Simla again and I shall have to wait for it, which is sad'.[43]

However, try as they might, Ellen and the other missionaries could not prevent India encroaching on their 'demi-paradise' through a variety of climatic and exotic means. The weather alternated between searing heat, oppressive humidity, torrential rain, sudden dust-storms, and the biting chill of night, all of which created difficulties for the Europeans. Thus, the rains kept the patients away, the missionaries relatively stranded, and also penetrated the roof of the Church and bungalow, although the hospital was more structurally robust.[44] The heat left them wilting and 'constantly wet with perspiration', while 'the result of living day and

[41]Farrer. Personal Diary. (December 3, 1897).
[42]Farrer. Personal Diary. (December 20, 1895); Letter from Ellen to her Sisters. (October 26, 1918), (November 7, 1918), (August 2, 1925).
[43]Letter from Ellen to her Sisters. (October 16, 1917), (August 2, 1925), (August 23, 1932).
[44]Letter from Ellen to her Sisters. (August 2, 1925).

night in an atmosphere rather like that of Kew gardens hothouse - only more so - is that we have all got "prickly heat"'.[45] Dust-storms were another meteorological menace, particularly in the days when Ellen was forced to perform operations in the open courtyard of the first dispensary. Indeed, during the very first operation 'an inopportune dust-storm rendered all aseptic measures fruitless.'[46] It was not only the weather that contaminated the westernised idyll with an unwelcome reminder of the foreign ecology. Exotic insects also invaded the mission buildings and Ellen found her 'cubari' box 'full of insects', as well as white ants in the dispensary and medicine cupboard.[47] Mosquitoes and sandflies plagued them both in and out of the bungalow, and 'though one sleeps under a net at night, one cannot live under one all the time and so avoid all danger of getting bitten'.[48] Ellen did claim, however, to be relatively immune from the attentions of the mosquitoes, who 'prefer fair young flesh'.[49] In 1931, the mosquito problem was quelled slightly, when the mission finally 'had the windows and doors covered with the right sort of netting'.[50] Insects were not the only exotic visitors, however, and Ellen had close encounters with a variety of creatures during her time at Bhiwani. A rat ventured into the dispensary in 1902, only to be ensnared in a trap, chloroformed by Ellen and drowned by Eleanor, while the snake caught in Annie's bedroom suffered an equally swift despatch.[51] A less drastic fate awaited the hapless owl discovered in Ellen's room a month after the rat encounter, and it was merely ushered from the premises.[52]

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[45]Letter from Ellen to her Sisters. (June 5, 1917), (August 16, 1921).
[46]Angus, Isabel. 'Evolution of a Mission Station: Bhiwani'. *The Missionary Herald.* (1924). pp. 39-42. p. 41; Letter from Ellen to her Sisters. (March 7, 1923).
[47]Farrer. Personal Diary. (December 5, 1894), (July 9, 1895).
[48]Letter from Ellen to her Sisters. (August 25, 1923), (March 26, 1917), (April 14, 1925).
[49]Letter from Ellen to her Sisters. (August 30, 1931).
[50]Letter from Ellen to her Sisters. (August 30, 1931).
[51]Farrer. Personal Diary. (June 12, 1892), (February 13, 1902).
[52]Farrer. Personal Diary. (February 23, 1902).

While fauna could be forcibly evicted or partially excluded, the weather was a more intractable hazard and various measures were adopted to combat the manifestations of meteorological phenomena. Punkahs were hung in the rooms of the bungalow and pulled during meals to provide an illusory breeze and cool the air, and all the European staff took annual refuge from the heat in the 'healthful' resorts in the hills.[53] Ellen spent summers at several resorts including Simla, Almora, where there was a sanatorium, Mussoorie and Kashmir.[54] These holidays were regarded as essential for maintaining good health[55] and even postponing a vacation could have dire results. For example, Ellen had no hesitation in ascribing the outbreak of boils suffered by one of the Staff nurses as being 'due no doubt to her needing her holiday, for which she is waiting till September'.[56] Whilst these sojourns in the hills were undoubtedly therapeutic in terms of alleviating stress and providing a respite from activity and responsibility, the locales were not necessarily any healthier than the plains of Bhiwani. However, since they were believed to offer a more salubrious environment, any cases of long illness not requiring hospitalisation or invaliding home, were sent to the hills. Thus, Ellen was banished to Simla for a month in the first year of her residence in India, suffering from fever. The following year, she was forced to return under the affliction of jaundice, and this time her convalescence was more protracted, causing her to exclaim disconsolately that 'Miss Beilby says I ought to stay until October! Alas!'.[57] Mussoorie claimed her ten months later, where she was sent to recuperate from another bout of fever.[58]

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[53]Letter from Ellen to her Sisters. (April 20, 1930). These summer vacations, usually a month to six weeks in duration, were in addition to furloughs, which occurred every 5 years or so.
[54]Letter from Ellen to her Sisters. (March 25, 1923), (January 29, 1928), (May 12, 1929); Farrer. Personal Diary. (August 10, 1894), (June 10, 1902).
[55]See above, p. 127. Hill stations were regarded as conveying a positive benefit to health in terms of prevention, but, while regarded as suitable for respite, retreat or recuperation, were not deemed effective for curative purposes.
[56]Letter from Ellen to her Sisters. (August 16, 1921).
[57]Farrer. Clinic Diary. (May 18, 1892), (June 18, 1892); Farrer. Personal Diary. (August 29, 1893), (September 6, 1893).
[58]Farrer. Personal Diary. (August 10, 1894).

Ellen was not unusually sickly, and the majority of the European mission personnel spent time in the hills recovering from various afflictions. For example, Isabel Angus went to Simla in 1900 in 'very poor health', and Dr Bisset had a prolonged convalescence from a heart complaint there in 1923.[59] Whatever the real benefit to health, the hill stations offered a focal point for interaction between personnel from various stations around India. Hence, Ellen was able to meet Elizabeth Beilby, Edith Brown, Jesse Carleton and other such notables at the various resorts during her time in India. Nevertheless, only furlough in England could truly accord a full respite from the heat and pathology of the Indian sub-continent. Generally lasting for about 6 months, it was an opportunity to recover lost vitality in the more temperate region of the English climate. Ellen spent the majority of her furlough from the languor-inducing heat engaged in Bhiwani-related activities, pursuing fund-raising with enlivened vigour and taking every opportunity, when in London, to update her medical knowledge and hone her skills.

On her first furlough in 1897, for example, she began her studies on the journey home by reading the *Lancet*.[60] Perusing the latest medical journals was not generally compatible with the pace of medical work and the enervating effect of the climate, and Ellen described to the AMW how

> 'the medical workers tend to be so taken up with clinical work that they seldom have time for full classification and scientific use of the materials at their disposal. What scanty leisure they do have is rarely used in a praiseworthy fashion [such as reading journals] owing to the effect of the climate on the constitution'.[61]

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[59]Farrer. Personal Diary. (July 30, 1900); Letter from Ellen to her Sisters. (August 6, 1923).
[60]Farrer. Personal Diary. (April 1, 1897).
[61]Farrer, Ellen. *Medical Work in the South East Punjab.* Lecture given to the Association of Medical Women at the New Hospital, London. (May 7, 1901).

Indeed, so rare were the opportunities to glance over the latest papers, that any such accomplishment merited a proud mention in the diary: 'Home early and actually managed to read some *Lancet*'.[62] The leisure of furlough offered the chance to assimilate the latest scientific advances, but Ellen also used her time in England to broaden her repertoire of practical techniques. Thus, she made regular trips to the New Hospital and Kentish Town Mission to see unfamiliar and new procedures. 'New Hospital to see abdominal section for ovarian cyst', 'to the New again and saw Mrs Scharlieb do a radical case for female hernia'.[63] Mrs Scharlieb held great distinction in the field of obstetrics and gynaecology, but more celebrated still was Patrick Manson who was also based in London after 1894. Thus, during her extended leave in 1901, Ellen went to the LSMW 'to hear Dr Patrick Manson's first lecture on Tropical Diseases'.[64] It was also during this enforced furlough that she engaged in an intensive course of bacteriological study, attending the University College laboratory every day to stain various organisms including tubercle bacilli, malarial plasmodia and ringworm.[65] In-between laboratory work, she attended lectures and demonstrations on cholera, diphtheria, malaria and other parasites, and also went frequently to the New Hospital for Women to watch Mrs Scharlieb do miscellaneous gynaecological operations.[66] In return, Ellen gave a paper entitled 'Medical Work in the South East Punjab' at the New Hospital, which 'Mrs Scharlieb seemed very pleased with'.[67] Nor was this Ellen's only foray into scientific publication and academic discussion. She also attended and gave papers to various medical conferences in India, and contributed articles on at least three case histories for the AMWI journal.[68] Even while in India, Ellen and her colleagues attended

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[62]Farrer. Personal Diary. (January 12, 1898), (January 15, 1899).
[63]Farrer. Personal Diary. (September 10, 1897), (October 15, 1897).
[64]Farrer. Personal Diary. (July 5, 1901). This was his first lecture at the LSMW. He had been giving intermittent public lectures since 1894.
[65]Farrer. Personal Diary. (March 7 - November 1, 1901). *passim.*
[66]Farrer. Personal Diary. (March 7, 1901), (March 8, 1901), (March 9, 1901), (March 12, 1901).
[67]Farrer. Personal Diary. (May 7, 1901).

post-graduate courses on diverse aspects of medicine. For example, Ellen went to Poona in 1923

> 'to attend a special course of lectures on certain diseases we often have to treat here. The course is given free by the Government doctor and all the medical women who attend get their fees and fares paid. Ronald (Bisset) went to a similar course last spring and found it most useful'.[69]

Ellen also went to a course on child welfare in Bombay in 1930.[70] Dr Bisset was similarly diligent in attending postgraduate courses, including one at Amritsar specifically on diseases of the eye and optical surgery. She became an acknowledged expert in ophthalmology, holding special 'eye camps' in local towns and villages and undertaking specialist operations at the Farrer hospital. 'The Governor of the Punjab spoke most appreciatively of Dr Bisset's great reputation as an eye specialist' in 1923, and patients were increasingly sent to the mission to be treated by her, although the practice declined somewhat after a special eye hospital was established in Bhiwani in 1933.[71]

Ellen did try, despite the constant calls on her limited time and the lassitude induced by the sapping heat, to remain up to date with medical procedures. However, her success in doing so is difficult to assess, since the specifics of medical treatment are

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[68]Letter from Ellen to her Sisters. (March 13, 1923). The case histories concerned an unusual case of a foetus which had been retained in the mother's body for two years whilst undergoing putrefaction (1913); observations on an outbreak of Dengue Fever (1924); and a report on an unusual case of Hydratid Mole in a Mohammedan patient - date unspecified. The draft papers are contained in the Farrer archive collection held in the Angus Library, Regent's Park College, Oxford.
[69]Farrer. Personal Diary. ((Madras Medical Conference) September 24, 1902; (Madras) October 24, 1902; (Ludhiana) April 10, 1907. Farrer. Clinic Diary. (Palwal) February 3, 1913; (Delhi) November 24, 1914; (Palwal) August 31, 1915; (Bombay) December 3, 1917; (Palwal) January 12, 1921).
[70]Letter from Ellen to her Sisters. (February 16, 1932).
[71]Hale, F. W. 'The Farrer Hospital at Bhiwani: Lady Maclagan opens the New Buildings'. *The Missionary Herald.* (1923). pp. 83-85. p. 84; Letter from Ellen to her Sisters. (February 13, 1917) 'Cataract patient has been specially sent from Delhi to see Ronald'; Farrer. Clinic Diary. (October 20-November 6, 1914), (March 20, 1916), (November 18, 1916); Farrer, Ellen. *The Professional Work of the Farrer Hospital.* (1933).

only mentioned occasionally in the diaries, and usually only in passing. Nevertheless, it is possible to gain some estimation of her modernity even from these cursory notations, and certainly her return from furlough in 1902 heralded a positive orgy of staining for microbes: 'took blood and analysed it for malarial parasites', 'spent a long time looking for tubercle bacillus in a patient's sputum, but instead found fino pneumococci', 'stained pus for plague bacillus', 'stained sputum and found pneumococci'.[72] The ability to recognise the malarial plasmodia alone raised her expertise above the average, according to Patrick Manson.[73] Yet, despite the advances in diagnosis and apparatus, the catalogue of drugs contained little that was new and much that was ineffective. Ellen referred to a variety of drug therapies, including quinine, chloroform and morphine which had been stalwarts of the pharmacopoeia for some considerable time; cocaine, which had been used in eye surgery since 1884; phenacetin, commercially available since 1887; and the blanket 'anti-febrile', that had been manufactured since 1899.[74] Nevertheless, Ellen was evidently employing the most modern techniques and latest medicines, as well as a few relics of the heroic pharmacopoeia. Hence, in one entry, the use of plague sera is mentioned in the same sentence as the infamous 'Dover's powders'[75]: 'dosed with Dover's powders ... had a delivery of calf lymph and vaccinated Gokal's baby'.[76] Ellen refers to the use of cocaine as an anaesthetic in 1892, in an operation to remove a urethral polyp, and to anti-febrile and phenacetin in 1902. However, calomel and opium also featured heavily in the therapeutic regime, for example in

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[72]Farrer. Personal Diary. (March 27, 1902), (April 18, 1902), (May 8, 1902), (July 23, 1902). Pneumococci are the causative organisms in infectious pneumonia and other lung diseases.
[73]Manson, P. 'The Necessity for Special Education in Medicine'. *The Lancet.* (October, 1897). pp. 842-845, p. 843.
[74]Hickel, E. 'Das Kaiserliche Gesundheitsamt and the Chemical Industry in Germany During the Second Empire: Partners or Adversaries?'. Porter, R and Teich, M. *Drugs and Narcotics in History.* (Cambridge, 1995). pp. 97-113. p. 98; Altman, L. *Who Goes First?* (New York, 1987). p. 70.
[75]Porter, R. (ed.) *The Cambridge Illustrated History of Medicine.* (Cambridge, 1996). pp. 136 & 255. Dover's powders were a mixture of ipecacuanha and opium which were first concocted in 1708 by a pirate and physician called Thomas Dover. The powders provoked sweating, and also had laxative and emetic properties.
[76]Farrer. Personal Diary. (March 19, 1902).

the case which she wrote up for the AMWI, unfortunately undated.[77] The juxtaposition of the modern and the medieval appears incongruous, but was totally consistent with medical therapy in Britain. The therapeutic advances of the late nineteenth and early twentieth century were not so dramatic as to obliterate the reliance on some of the hoary old favourites, however ineffective or dangerous they now appear. Quinine was regarded as one of the very few *effective* drugs contained in the nineteenth century pharmacopoeia and it features consistently in the treatment of malaria and other fevers at Bhiwani, although never as a prophylactic.[78] In fact, the remedy was so popular that it required much more frequent replenishment than any other drug in the pharmacy: 'Nearly at the end of our quinine store and only 3-4 days ago I sent off an order for another 3lbs!'[79] Although quinine was primarily effective only against malaria, Ellen also used it to treat non-malarial cases such as neuralgia, whooping cough, and bronchitis, against which it was entirely ineffectual. This serves merely to underline the impotence of a drug arsenal that could muster only one serviceable weapon to throw at any and all approaching hazards.[80]

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[77]Farrer. Personal Diary. (March 17, 1892), (March 29, 1902), (October 17, 1902). The case report was on a Mohammedan woman with an unusual case of Hydratid Mole - a gynaecological complaint whereby the vascular tufts of the foetal part of the placenta become infected and greatly enlarged. Over the course of five days, Ellen dosed her with ergot, magnesium sulphate, calomel, calcium chloride, pituitrin, opium, cinchona pills and vaginal douches.

[78]Bynum, W F. *Science and the Practice of Medicine in the Nineteenth Century.* (Cambridge, 1994). p. 225. The British Medical Journal of 1899 regarded quinine as the only properly effective pharmacological agent in medicine. Quinine prophylaxis had many distinguished advocates, including Patrick Manson and Robert Koch, who publicised their support for the measure in the 1890s. However, even in the army there was significant resistance to the idea, and it was not until the second decade of the twentieth century that it saw any appreciable employment. The malarial death rate among Europeans declined sharply as a result. However, as with many preventative strategies in British India, there was neither the money nor the inclination to institute nationwide prophylaxis, and for the most part, quinine remained a curative rather than preventative drug.

[79]Letter from Ellen to her Sisters. (August 30, 1931), (April 20, 1924), (October 10, 1928); Farrer. Personal Diary. (May 17, 1892), (July 10, 1896), (June 1, 1898), (December 3, 1899), (March 27, 1902).

[80]Farrer. Personal Diary. (December 3, 1899); Letter from Ellen to her Sisters. (October 10, 1928).

Ellen's knowledge of bacteriology enhanced her appreciation of the cause and aetiology of various diseases. For example, she exhibited an awareness of the role of rats in the transmission of bubonic plague, noting that dying rats were particularly dangerous because it was only then that the fleas jumped host. Similarly, she understood that malaria was spread by a specific type of mosquito and not just any member of the genus.[81] Limited access to the latest journals and exile from the centre of medical research did not, then, prevent Ellen from employing some of the most up-to-date therapies in the course of her practice. For example, plague serum had been developed by Haffkine in 1900 and suffered some difficulties during trials, but Ellen and the Bhiwani mission were using the serum by 1902 as part of a Government initiative.[82] She also mentioned the use of diphtheria antitoxin, developed in 1891 and commercially available in 1892: 'returned to tackle a bad case of diphtheria with antitoxin, which didn't work'.[83] However, keeping pace with the latest research was not the only pre-requisite for modern therapy, and the financial status of the missions meant that some innovations were beyond them. For example, they did not have access to x-ray technology until 1925, despite the fact that elsewhere the machines had become commonplace even in personal surgeries.[84] Even drugs were at a premium, and in the early days the missionaries obtained pharmacy materials when and where they could. Hence, Ellen purchased drugs and instruments whilst on furlough in London, Isabel brought some back from a trip to Agra, and they also commissioned

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[81]Farrer. Personal Diary. (November 14, 1903); Letter from Ellen to her Sisters. (August 25, 1923). Although it is not clear whether she could actually identify the anopheles mosquito.
[82]Farrer. Personal Diary. (February 13, 1902). It was distributed by the Government via the civil surgeon.
[83]Farrer. Personal Diary. (November 11, 1898). The success of the diphtheria antitoxin was variable, since neither the quality of the product nor the virulence of the disease remained constant. It was, nevertheless, hailed as a great breakthrough in medical science, and helped launch the fashion for serum and vaccine studies.
[84]Porter. *History of Medicine.* p. 141; Letter from Ellen to her Sisters. (March 25, 1925). The mission still did not have a machine in 1925, but sent any cases requiring an x-ray to the civil hospital which had acquired one by then.

some deliveries from Calcutta and Bombay. Indeed, so precious were these supplies, that Isabel gave Ellen a stretcher for the hospital for her birthday. In later years, with the improvements in transport, they were able to receive annual consignments from England, albeit enhanced by extra provisions from Indian centres.[85]

Medical practice in India encapsulated not only isolation, primitive conditions, a tempestuous climate, and a different array of common diseases, but also a vista of entrenched superstition, prejudice, and loyal adherence to traditional native techniques. Ellen was showered with praise by the North India Conference for her perseverance in overcoming 'male apathy and female superstition', phenomena that confronted 'all pioneers in relief of women's maladies.'[86] Ellen herself admitted to the culture shock occasioned by the material differences in hospital provision, stating in 1906 that 'the medical missionary typically arrives fresh from a large English hospital, full of the latest appliances and hygienic surroundings and antiseptics, and is faced with an Indian house in which there is no ventilation except the door.' She acknowledged that this was not the case in the large Indian cities, where medical work was of longer standing and the quality of hospitals corresponded more closely to the English standard, but maintained that it was almost invariably true of pioneer stations such as Bhiwani.[87] Indeed, Bhiwani was 'fifty years or so behind the state of progress reached in Madras and Bengal' according to Ellen,[88] and such were the vicissitudes of provincial practice that she believed medical missionaries in India 'need to be ready for anything and everything, and need to be a specialist in every disease flesh is heir to'.[89] Nurse

[85]Farrer. Personal Diary. (October 12, 1893), (October 17, 1895), (September 20, 1896), (October 15, 1897), (January 20, 1908); Letter from Ellen to her Sisters. (September 22, 1925).
[86]North of India Conference Minutes. (March, 1934).
[87]Farrer, Ellen. *Report to the Baptist Missionary Society.* (April, 1897).
[88]Farrer, Ellen. *Report to the Medical Mission Auxiliary.* (April, 1906).
[89]Farrer, Ellen. *Report to the Medical Mission Auxiliary.* (April 26, 1901).

Margaret Rawson was forewarned of the somewhat primitive nature of facilities in India, and consequently found the 'shocks were few and far between' when she arrived in Bhiwani in 1913. Nevertheless, this was 'not ... to infer that all was as it should be; far from it', but she thought the progress to date was excellent and was confident of success for the future. The principal difficulties described by Nurse Rawson regarded the 'less than ideal circumstances for doing surgical work', the 'lack of discipline among the native nurses', and the paucity of suitable accommodation for the family members who inevitably accompanied any patient from beyond the immediate vicinity.[90] Margaret Rawson's foreknowledge of the conditions at Bhiwani may account for her apparently sanguine attitude, but her portrayal of the mission was written for the BMS magazine and she was undoubtedly anxious to convey a positive impression to the readers who were supporting the venture. This may perhaps explain why her outrage is reserved wholly for a practice sustained not at Bhiwani or a mission run dispensary, but in the civil hospital.

> 'When visiting one of the civil hospitals, I was amazed and considerably horrified at one thing especially - namely that while the surgeon was operating on one patient, the next patient-to-be was squatting on the floor of the operating theatre and allowed to watch all the proceedings. This practice does not exist in our mission hospitals, and I am glad for the idea seems to me most barbarous'.[91]

It was certainly a complete contrast to Ellen's anxiety during her first courtyard operations, to prevent any curious eyes witnessing the scene of surgery, but Ellen herself observed this type of procedure in Jahandapal, and expressed surprise and fascination at the successful outcome rather than disgust and outrage at the arrangements.[92]

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[90]Rawson, Margaret. 'First Impressions'. *The Missionary Herald.* (1913). pp. 333-334. p. 333.
[91]Rawson. 'First Impressions'. p. 333.
[92]Farrer. *The Story of the Farrer Hospital.* (1928); Farrer. *Medical Work in the South East Punjab.*

SCORN AND SUPERSTITION: ELLEN'S EXPOSURE TO INDIGENOUS CULTURE

Nevertheless, however basic the provisions for medicine might be, Ellen was in no doubt that the advent of western medicine in India was both beneficial and necessary. 'Tropical diseases, as well as disease and illness caused by caste, purdah and maternity customs all add to the need which the Ayurvedic and Unani medical systems fail to meet'.[93] Ellen's estimation of the native systems of healing was almost entirely negative. She had nothing but contempt for the dhais, and little more appreciation for the art of the hakims and vaids. Her conviction of the superiority of western science and medicine was unshakeable and, although she sought to maintain a tolerant demeanour towards the various manifestations of superstition and cultural customs, she viewed Ayurvedic and Unani medicine with a mixture of incredulous curiosity and disdain.

> 'The hakims have their own medical systems that they claim hark back to Greek medicine but which are all too reminiscent of the old style of western medicine long-gone - cupping, bleeding, leeching, burning with irons and copious noxious lotions and potions made up of varieties of vegetable matter, earth, staghorn, lampblack and numerous other substances. Surgery is in the hands of barbers, and dentistry is done by metal workers because they have tools!'[94]

Indeed, so unimpressed by native medicine was Ellen, that she regarded the hakims as being virtually synonymous with the multifarious quacks:

> 'There is no medical register in India, so quacks are common'. 'India is a land of quacks and quackery, and the supposedly trained hakims know nothing of diagnosis, and only test the pulse and *occasionally* look at the tongue. They do no chest sounds or anything else and they are supposedly doctors!'[95]

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[93]Farrer. *The Medical Work of Missions.* (February 5, 1934).
[94]Farrer. *Report to the Baptist Missionary Society.* (April, 1897).
[95]Farrer. *Report to the Baptist Missionary Society.* (April, 1897); Farrer. *Report to the Medical Mission Auxiliary.* (April 26, 1901).

Ellen did let slip one rare tribute to native medicine in 1906, commenting that 'Indian medical methods are similar to those of the middle ages in Britain, but some hakim concoctions are truly marvellous'. She tempered this, however, by saying that 'equally others are simply disgusting', and referred to the native art in general as 'the hakims wares and spirit worship' rather than dignifying it with the term 'medicine'.[96] On one occasion, Ellen was actually favoured with a glimpse of an Ayurvedic prescription, which did much to confirm her derogatory suspicions:

> 'I was called to a mother with a very sickly new-born baby. She was only 15 or 16 and evidently has phthisis. I explained to her relations that they should bring her to hospital for treatment, and why, but they seemed reluctant at first and inclined to favour having a prescription made up of some wonderful stuff prescribed by some other 'doctor' whom they had consulted - doubtless a 'vaid' of the Ayurvedic school. They proceeded to show it to me - a scrap of paper on which the names of perhaps five ingredients were written in Hindi - and they said that one of these alone would cost Rs 25 and the whole Rs 30 - i.e. about £2.50. I recognised one as the word for a pearl and I expect this was the Rs 25 one! It seems to be one of the principles of Ayurvedic medicine that the virtue of a drug or mixture of drugs must be in direct proportion to its costliness, hence such things as ground up pearls and gold etc, must have a wonderful effect. At any rate, the idea seems deeply rooted in the Indian mind and dies hard'.[97]

In fact, Ellen appeared to regard native doctoring as a positive liability to health, remarking on one occasion 'went to the old breast case. Found her well in spite of native treatment and got my fee'.[98]

Ellen's contact with the native doctors was largely by repute, and she usually only saw the result of their work when a patient, on whom the hakim or vaid had given up, was referred to the mission. Thus, 'a man came to the dispensary wanting me to

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[96]Farrer. *Report to the Medical Mission Auxiliary.* (April, 1906).
[97]Letter from Ellen to her Sisters. (May 12, 1929).
[98]Farrer. Personal Diary. (December 31, 1896).

call on a case of 16 days illness which had been given up by the hakim'.[99] Equally, if not more often, patients abandoned Ellen's care in favour of trying the hakim or vaid: 'the family wouldn't believe me when I said that the patient would die [without immediate surgery]. Probably called a hakim in instead', 'went to see a patient from the previous night, only to find a hakim had been called in.'[100] In the course of her career, Ellen saw numerous cases from which she was later dismissed in favour of a hakim or vaid. She was also favoured with a significant number of cases where, all else having failed, the family decided to try the services of the western doctor in the last minute hope of a miracle. These 'last resort' cases were particularly common in the early years when Ellen was establishing the practice and hospital, but late referrals continued to pepper the practice even in the latter days of Ellen's career.

> 'Hindus and Mohammedans are not always ready to welcome western medicine, and they often come only as a very last resort. Sometimes it is too late for anything to be done, but sometimes a simple operation can cure and this seeming miracle does much to bring others under care and within the hearing of the gospel'.

Indeed, the hint of divine providence was very useful in creating a favourable impression since 'although we cannot work miracles, by using the resources of modern medicine and surgery, we can achieve results that seem miraculous to the ignorant village folk.[101] Unfortunately, there was often no hope of remedy: 'patient died rather suddenly, she was a Mohammedan girl from a distant village, brought to us like so many others too late with advanced tubercular disease'.[102] Tuberculosis was still largely incurable, even with western medicine, but some patients died through the neglect or mismanagement of trivial or easily rectified conditions. For

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[99]Farrer. Personal Diary. (September 18, 1902).
[100]Letter from Ellen to her Sisters. (January 23, 1917); Farrer. Personal Diary. (April 2, 1902).
[101]Farrer. *Report to the Medical Mission Auxiliary.* (April, 1906); Farrer. *The Medical Work of Missions.*
[102]Letter from Ellen to her Sisters. (March 14, 1917), (August 7, 1923).

example, a patient arrived suffering from a bladder stone for which there was a simple surgical cure. However, 'it seems like she will die. It is the old story of coming too late for treatment and she was thoroughly poisoned by sepsis before we got to her and removal of the original cause couldn't stop the evil effects'.[103]

Frustration at being unable to redress the damage caused by delay or incompetence was often further compounded by the pitiable condition of the victim. Ellen never became inured to such suffering, and continued to anguish over the many tragedies she witnessed:

> 'Yesterday afternoon one of the saddest things happened that I have yet come across in connection with the plague outbreak. A poor, fainting, staggering creature was hauled in from the cart in which they had brought her and deposited on the verandah of the hospital out-patient department, where she collapsed and died within 10 minutes or so. She had been taken ill with plague about two days earlier and somebody had suggested the application of leeches to the painful gland, which happened to be in her neck. This foolish advice they took, and one of the leeches probably struck a vein. Anyway, after their removal the bleeding went on and when I saw her, dirty clothes, hair matted with blood, flies buzzing all round and a pulseless condition with a temperature of 102, completed the pitiable picture. It was too late to do anything to save her. I daresay her relations thought they were doing their best for her and they could not well have done anything much worse!'[104]

Another case featured the work of a 'wise woman', a title bestowed on women with supposed powers of healing or a hereditary line of magic.

> 'Such a sad case came in today. A Mohammedan girl of 7 or 8 brought in by camel from 15 miles away. Three weeks ago she fell and hurt her elbow. They called in a wise woman who set and bound it so tightly that her hand turned blue. All kinds of lotions were applied and the child became feverish and couldn't open her mouth. Her arm was black and mortified right up to the elbow with the bones of the compound fracture sticking out through the skin. Nothing could save the arm and with the symptoms of tetanus 'lockjaw', I am not sure we can

[103]Letter from Ellen to her Sisters. (May 21, 1923).
[104]Letter from Ellen to her Sisters. (April 7, 1925).

save her. It is so sad, when the original injury was so simple. No doubt her mother, poor ignorant thing, was doing what she thought best.'[105]

The importance of the male child in Indian society added further poignancy to some mismanaged cases, such as one in 1924: 'a baby was brought in sick - it had been dosed with opium by the mother and died. I felt very sorry for her because the baby was her pride and joy and she had had no children for eight years before him, so I am very sorry for her even though the death was unnecessary and the result of her own folly'.[106]

The depiction of western medicine as a source of potential 'miracle' cures could have unfortunate repercussions, since those brought to the mission as a last resort expected a swift, if not instantaneous, recovery: 'Patients come from a long way away, but some expect a cure within one visit and won't stay to have an operation or proper treatment';[107] all too often 'medical cases expect a spectacular result after a few doses of physic'.[108] The belief in the swift potency of western medicine did not dissipate with the passing years, and Ellen was still battling with an impatient clientele in 1923:

'A child was admitted yesterday and was taken away this afternoon by his mother despite protests in my most fluent and emphatic Urdu that it would be her fault if he were lame or crippled. She declared that she had only wanted some liniment for him and apparently expected chronic trouble of a years standing - probably tubercular - could be cured in four or five days.'[109]

Western medicine was not able to manifest the fruits of the chemotherapeutic advances in pharmacology until the 1930s, and in the primitive backwaters of

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105The child died. Letter from Ellen to her Sisters. (May 8, 1917).
106Letter from Ellen to her Sisters. (February 11, 1924).
107Farrer. *Report to the Medical Mission Auxiliary.* (April 26, 1901).
108Farrer. *The Medical Work of Missions.*
109Letter from Ellen to her Sisters. (May 1, 1923).

Imperial India, progress was even more dilatory. Indeed, it was only really surgery that could offer hope of the miraculous and immediate remedy sought by the natives, but it took time to coax them into appreciating the merits of invasive operations. Patients who ran at the sight of thermometers and stethoscopes were unlikely to view scalpels and chloroform with equanimity, hence 'there was very little surgery done in those early days'.[110] Nevertheless, if the prospective patient could be inveigled into accepting surgery, the outcome was regarded as significantly more successful than that attending mere medical treatment. This was not simply because of the relative impotence of physic, since many regimes did have curative and ameliorative benefits, but also reflected the malleable attitude of the post-operative patients. They were, for example, typically easier to manage because 'something definite has been done and they are generally willing to submit to after-treatment. Medical cases do not see why they should stay in bed.'[111] It was also 'easier to keep them in hospital after the operation', whereas medical cases were rather more likely to do a midnight flit or insist on departing before they had finished their treatment.[112]

Nevertheless, surgical cases treated post-operatively in the home were significantly less docile, and the doctor could never be sure that her instructions were being adhered to. For example, Ellen was called to attend a young girl who had fallen off a roof and dislocated her hip:

> 'I reduced the dislocation, splinted and bandaged the hip and left, I thought, *explicit* instructions. The family were well-to-do and of good caste and to suggest her being brought to the hospital as an in-patient was useless. The next day when I arrived, the first thing I saw was the splint over which I had taken intense time and trouble propped against a wall. The reason being because the patient and her family would not carry out my instructions to use some vessel as

110Farrer. *The Story of the Farrer Hospital.*
111Farrer. *The Medical Work of Missions.*
112Farrer. *Medical Work in the South East Punjab.*

a bedpan. As far as I know the dislocation did not recur and the patient recovered better than she deserved to, but I did not visit her again'.[113]

Even if the family did not *deliberately* disregard the instructions, they sometimes misinterpreted them with occasionally disastrous results.

'I was called to a typhoid case with bronchitis. I ordered her to be kept recumbent and sponged carefully. Her friends, instead, pulled her into the middle of the courtyard on a sheet and doused her from head to foot with well water, rubbing at her all the while, so that she was shivering and barely conscious. The next day she haemorrhaged from the bowels and died'.[114]

'The home situation is not conducive to good care', declared Ellen, and the deliberate or accidental disregard for clinical ministration made her all the more anxious to shepherd as many patients as possible into hospital, where their treatment could be properly supervised.[115] Nevertheless, she displayed decided pragmatism in many of her encounters with fractious patients, and would concur with a less than ideal arrangement in the hope of achieving favourable results later on: 'Sometimes it is better to do the dilation and curettage & etc, and send the patient home an hour later because to try and insist on admitting the patient would result in her running off and never coming again and therefore giving us no chance to provide after care'.[116]

There was, however, another factor which militated against faithful adherence to the doctor's instructions. Ellen struggled against superstition and prejudice, but found the innate fatalism of the patients and their families unassailable. The placid acceptance of death as a natural and unavoidable phenomenon did mean that the doctor was typically absolved from any blame, since 'fatalism can work in favour of

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[113]Farrer. *Medical Work in the South East Punjab.*
[114]Farrer. *Medical Work in the South East Punjab.*
[115]Letter from Ellen to her Sisters. (April 22, 1923), (October 20, 1929).
[116]Farrer. *Medical Work in the South East Punjab.*

the doctor because the relatives think that death is the work of fate and not a lack of skill'. However, it was a double edged sword, and could have the destructive effect of causing unnecessary death:

> 'Death for no good reason is not uncommon. I think it is due to fatalism - patients who are not so ill and could recover decide that it is their fate to die and do so! A real curse of fatalism is where the friends and relatives decide the patient is fated to die and therefore take no trouble to follow the doctors instructions. Sometimes they do not even send for the medicine, but give the patient drops of Ganges water instead'.

Although she recognised that fatalism was beneficial insofar as maintaining confidence in the hospital was concerned, Ellen nevertheless regarded it as a predominantly negative force which would 'excuse culpable negligence' as being merely the workings of fate. Thus, the unfortunate but unavoidable outcome from a last resort case of surgery was equated with the deliberate and pernicious antics of the wise woman, the hakim, or the ill-advised and superstitious family.[117] However, the fatalistic outlook was by no means universal, and Ellen encountered several cases where the family were not inclined to bow to the dictates of destiny: 'Little babu brought in with both legs contracted from 10-11 years of paralysis. Her friends seemed heartily disposed to believe we could cure her if only we would'.[118]

The native trepidation regarding surgery abated over the years, enabling the Bhiwani doctors to extend operative care to non-emergency cases and, by 1933, the number of major surgical procedures was sufficient to keep the septic surgery ward constantly full and frequently overflowing.[119] Nevertheless, apprehension and

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[117]Farrer. *Medical Work in the South East Punjab*; Farrer. *Report to the Medical Mission Auxiliary.* (April 26, 1901).
[118]Farrer. Personal Diary. (March 11, 1902).
[119]Farrer. *The Professional Work of the Farrer Hospital*; Farrer, Ellen. 'Major Surgery'. *The Missionary Herald.* (1906). pp. 137-138. p. 138.

uneasiness had not been entirely dispelled and vital operations were still refused by the timorous and less intrepid:

> 'An obstruction case was brought in on a camel from a village eight miles away. We said she needed an operation but the husband refused and took her away when the milder measures we tried failed to relieve her'; 'child brought in with an intestinal obstruction, but his family refused to consent to the necessary operation and we had to let him go'.[120]

One some occasions, the patient would refuse to undergo surgery only to return later, anxious for the operation, when it was too late:

> 'A huge tumour operation today. The case was very complicated as the tumour had got twisted on itself ten or twelve days ago and had haemorrhaged into the cavity and caused peritonitis, so the patient was not in a good condition for the operation, being feverish and in severe pain. She stood it well, but the peritonitis was too far advanced for us to treat and she died. Her husband said she had seen a doctor 18 months ago who had told her to have the operation, but she had refused.'[121]

Equally common were the cases where the patient initially consented to surgery, only to rescind the decision at the last minute. For example, in 1919 'an old woman was admitted with an intestinal obstruction, who at first agreed to the operation and then funked it when we were ready'.[122] Vacillation and alarm were not uncommon and, despite the pervasive ethos of fatalism, the death of a fellow patient wreaked havoc with the operating schedule, since the other candidates for surgery became suffused with panic and had to be coaxed back into consent.[123]

120Letter from Ellen to her Sisters. (April 4, 1917); Farrer. Personal Diary. (September 30, 1909).
121Letter from Ellen to her Sisters. (August 20, 1923).
122Farrer. Personal Diary. (September 14, 1919).
123Farrer, Ellen. 'Letter from Ellen Farrer'. *Heath Street Herald.* (1916). The reaction was the same whether the patient died from natural causes or under the knife.

Notwithstanding the timorous attitude of the natives, advanced surgery only became practicable at Bhiwani after the arrival of a nursing sister capable of providing the necessary clinical assistance. Prior to that, Ellen had had to refer cases requiring complex or serious operations to Delhi, with the all too common result that the patients simply refused to go due to economic difficulty, fear or prejudice. Thus, 'it made a huge difference when we were able to do them at Bhiwani'.[124] However, properly trained attendant nurses were not the only pre-requisite for sophisticated surgery. Adequate facilities were equally indispensable and, although the operating theatre in the first hospital was a far cry from the makeshift surgery of the dusty dispensary courtyard, it still lacked a marble floor and a sufficiently high table. The theatre built in 1923 boasted both these requisites, but suffered from a lack of electric lighting which necessitated the performance of evening operations amid the subdued haze of lantern-light.[125] Bhiwani was not blessed with an electricity plant until well after Ellen had retired.[126] The primitive conditions and unhygienic surroundings which characterised much of the early medical and surgical work of the Bhiwani mission did not detract from Ellen's pride in their achievements. Even in 1901, she pointed out that considerable success had been accomplished despite the lack of so-called essential amenities, although she 'implied no disparagement to modern asepsis' and was 'green with envy at the facilities of modern hospitals'.[127] Indeed, Ellen was herself constantly astonished by the resilience of the patients:

> 'Surgery is more successful than might be expected, given the facilities and the inability to practice total antisepsis. Eye operations are remarkably successful. I saw several done in Jahandapal where the patients came in all filthy from the street. They are just invited up onto the table, have a local anaesthetic lotion applied and the operation is done. The next patient then takes their place, with the instruments meanwhile resting in carbolic - yet many are successful and the

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[124]Farrer. *Story of the Farrer Hospital*; Farrer. Personal Diary. (July 5, 1892). Farrer. *The Medical Work of Missions.*
[125]Farrer. *Story of the Farrer Hospital*; Farrer. 'Major Surgery'. p.138.
[126]Farrer. 'Red Letter Days at Bhiwani'. p. 262.
[127]Farrer. *Medical Work in the South East Punjab.*

> proportion of total successes are excellent - despite the activities of the patients who rest in hospital for 8-10 days, fiddle with the bandages, rub their eyes, try to find out if they can see, etc!'[128]

As time went on, the range of operations performed at the Bhiwani hospital increased in complexity and number, including anything from heroic emergency surgery to delicate eye work. There was even the odd foray into cosmetic surgery: 'Did a tattooing operation on a round white patch on a healthy looking girl. It will not affect her sight one way or another, but will considerably improve her appearance. I may have to repeat the process to get the best result possible'.[129] There was also a limited degree of specialisation and diversification, with Ronald Bisset assuming sole responsibility for all ophthalmological operations after her course at Amritsar in 1914: 'Did an eye operation - iridotomy. I hadn't done one for years, eye surgery being the prerogative of Dr Bisset at Bhiwani!'[130] In later years, all the surgical cases were delegated to Dr Bisset, while Ellen concentrated on the medical patients. This arrangement was not wholly dictated by the effective division of labour, but was largely prompted by Ellen's attack of lymphangitis which left her with a crippled hand.

> 'We did an abdominal operation on Friday. When I say 'we', it means that Ronald is the surgeon and I assist her. It is a comfort to find that she seems quite pleased to have me do so, in spite of my crippled hand. Mary [Guyton] helps too', 'Ronald has taken over the surgical work of the hospital again, so I am having a much easier time of it'.[131]

The diversity of the surgical register was expounded by Ellen in 1933, when she listed the principal types of surgery at Bhiwani as

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[128]Farrer. *Medical Work in the South East Punjab.*
[129]Letter from Ellen to her Sisters. (December 8, 1925).
[130]Letter from Ellen to her Sisters. (June 3, 1918). Ellen was at Dholpur at the time, hence her access to ophthalmology cases!
[131]Letter from Ellen to her Sisters. (March 7, 1923), (January 11, 1926).

'intestinal obstruction - the commonest form being volvulus - may need an emergency operation. Tuberculosis of bones and joints accounts for a good deal of the surgical cases. Accidents are not very often seen, but some fractures and burns. Germ laden living conditions lead to much cellulitis, osteomylitis, furumculosis etc, which require surgery of varying degrees of severity'.[132]

Gynaecological and obstetric operations were also extremely common. Thus, by the time Ellen left Bhiwani in 1933, the surgical practice was a flourishing testament to the success of the missionaries in overcoming the fear and suspicion of the native population, and in combating the hazard of superstition which had done much to frustrate the dissemination of western medicine among the local people.

This is not to imply that superstition and allegiance to cultural practices was eradicated or even seriously diminished by the mission activities, but rather that the hospital was able to surmount the obstacles to treatment through compromise and concession. Thus, Ellen was willing to accommodate the various canons of caste and religion, although she had little sympathy with what she regarded as irrational superstition. 'The belief in charms and spirits leads one to suppose that the Indian is little more advanced than the African with his fetishes. But the Indians are civilised - not in the way of the West, but, in their own way, not unworthy of the term'.[133] If nothing else, this statement demonstrates the intrinsic assumption of superiority typical of the Europeans in India, including the missionaries. However, her incredulous contempt for native ritual was compounded by the frustration she felt over the deleterious effect such beliefs could have on health and medical care. Some manifestations she found merely humorous, such as the belief that the extraction of a tooth from one side of the face would result in the loss of sight in the corresponding eye. However, even this notion hampered early attempts at dentistry,

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[132]Farrer. *The Professional Work of the Farrer Hospital.* In late nineteenth century Britain, tubercular surgery had been similarly predominant - representing 26% of all surgical cases in 1890 and 20.5% even in 1901. Cartwright, F F. *A Social History of Medicine.* (London, 1977). p. 123.
[133]Farrer. *Report to the Baptist Missionary Society.* (April, 1897).

although Ellen eventually managed to convince the patients that their fears were unfounded.[134] The supernatural was another matter altogether, and Ellen found the spirits and deities far more obdurate than the practices of folklore heritage. Evil spirits, invested with all kinds of mythical powers, proliferated throughout the culture and had to be placated with displays of reverence and homage. There was also a whole host of ritualistic countermeasures designed to protect against the wrath of the spirits, should the placatory gestures fail. For example, children were renamed in infancy to try and confuse the spirits about their identity, thereby protecting them from afflictions and pestilence meted out by the deities.[135] Other beliefs led to bizarre or unsuitable treatment. Thus, delirium was ascribed to the air having infected the patient and was traditionally treated by blocking all apertures and smothering the patient in blankets to prevent any further contamination.[136]

Consequences of adherence to superstitious practices could prove dangerous or even fatal, and it was this which excited Ellen's anger and grief. Operations were refused or delayed for reasons incomprehensible to her, based on folklore, religion and supernatural considerations. For example, in 1920 'a party of Jain monks and nuns have been at Bhiwani. One nun needed an operation, but they have a tenet against the use of any iron or steel and so couldn't countenance it!'[137] On numerous occasions Ellen was called to patients whose illness had been allowed to progress unabated, whilst 'charms' were used in an attempt to release the evil spirits: 'Obstruction case brought in. She should have been brought in yesterday, but her relatives decided to try a charm first. The woman died - mainly due to the delay while they waited for the charm'.[138] Sometimes her services were initially invited,

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134Farrer. *Fifty Years*. p. 4.
135Farrer. *Report to the Medical Mission Auxiliary*. (April 26, 1901).
136Farrer. *Report to the Medical Mission Auxiliary*. (April, 1906).
137Letter from Ellen to her Sisters. (August 9, 1920).
138Letter from Ellen to her Sisters. (April 4, 1917).

and then abandoned because of supernatural factors: 'Called to a confinement, but had to leave it because the patient was supposed to be possessed by a bhut!'[139] The natives feared that the evil spirits would be affronted by western science, and instead tried to placate or banish them with charms and incantations. Ellen described the case of a child with lock-jaw, on whom she performed some minor surgery and was afterwards treating with medicines. Unfortunately, when she returned later, she 'was not allowed to see her and treatment was stopped because the wise woman said the disease was due to an evil spirit and she must be left alone for a day because the spirit would be offended by the use of medicines. She died.'[140] Of all the spirits and deities in Bhiwani, the most potent of all was Mátá, the Goddess of Smallpox.[141] Dedicated shrines predominated throughout the district, where gifts and tributes of reverence were made on a regular basis, and all the children were left unvaccinated because the practice was deemed offensive and disrespectful to her.[142] These precautions did not preclude the children receiving treatment at the hospital for smallpox complications, however, so Ellen was granted the spectacle of numerous unnecessarily maimed, scarred and blinded children: 'Helped Miss Yaqub with an operation on a miserable little specimen of a boy who had bone disease in his right wrist and left ankle and abscesses in two other places, all as a result of a bad attack of smallpox'.[143] Ellen deplored the lack of vaccination in India, and berated those who opposed its use in England: 'There is a smallpox epidemic every cold season at Bhiwani and I wish that some of the conscientious objectors to vaccination in *this* country could have seen its value as a prophylactic'.[144]

139*Census of India*; (1911). Vol. XIV, The Punjab. Part I, p. 303; Farrer. Personal Diary. (May 25, 1925). A 'bhut' was a female vampire - the spirit of a mother who had died in childbirth.
140Farrer. *Report to the Baptist Missionary Society.* (April, 1897).
141Also known as Mariamman and Sitala.
142Farrer. *The Professional Work of the Farrer Hospital.*
143Letter from Ellen to her Sisters. (May 1, 1923).
144Farrer. *Medical Work in the South East Punjab.*

PURDAH, CASTE AND THE CULTURAL SUBJUGATION OF WOMEN

Superstition was not the only bar to good treatment and, tolerant as the mission personnel tried to be, purdah and caste offered equally serious impediments to the successful practice of western medicine. The dictates of purdah demanded the provision of specific accommodation and a maintenance of seclusion. Bhiwani patients were relatively well served by the women's mission hospital, and male patients were not normally treated by the mission staff. There is evidence of occasional concession in this matter, however, such as a letter surviving in the archive collection: 'Dear Dr Miss Sahiba, Thank you for curing my father and for your kind and generous sanction to cure a male, which I know you do not do in general'.[145] There were male servants at the mission though, who were a potential threat to the sanctity of seclusion and Ellen reported that the *purdah nishin* 'hid whenever the water-carrier came'. They also refused to be in any of the photographs taken of the hospital and patients, behaviour that Ellen was at a loss to understand: 'I don't know what harm a photo would do or what, if any, spiritual objection they have to it, though maybe it was because the photographer was male'.[146] Nevertheless, the missionaries tried to comply with all the requirements of purdah seclusion, even holding special 'purdah parties' for the *nishin*, who could come out onto the verandah safe in the knowledge that no male syces or other servants would pass by.[147] Ellen might have extended tolerant indulgence to the purdah whims, but this did not signify any trace of approval for the Zenana practices. She believed that 'unhygienic practices and keeping so many women in purdah go far to account for the alarming rise in [tuberculosis] in this country', and that 'purdah customs are largely responsible for the prevalence of [osteomalacia]'.

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[145]Letter to Ellen. (December 23, 1932). Male children were treated, but were not regarded as contaminants of purdah until they reached maturity.
[146]Farrer, Ellen. 'Letter from Bhiwani'. *The Missionary Herald.* (August, 1904).
[147]Farrer. Clinic Diary. (December 31, 1917).

The effect on the mind was even more pernicious in Ellen's opinion, and she found it 'not surprising that hysteria in multitudinous manifestation is seen so often in women due to the purdah system'. Indeed, it was 'especially common among the better class purdah women, who have little healthy occupation of mind or body'.[148] The observation of caste ritual also created difficulties, both medical and material. The water supply for the hospital was brought by water-carrier from a well some distance away, and the mission

> 'periodically had difficulty with the caste Hindus over our water-carrier taking water from what they considered was their well. They maintained that he defiled the water for them and so strong was their caste prejudice that they would have deprived the whole hospital of water had not better councils prevailed'.[149]

In 1923, a well was sunk in the hospital compound which solved the logistical difficulties, but the issue of caste sanctity remained. High caste patients were unwilling to use water provided by the water-carrier or that drawn from the mission well, because it was contaminated by the untouchables and lower castes.[150] Therefore, they would only accept medicine in a 'dry' form, such as a pill or powder; and would bring brass bowls of water from their own caste wells, for use in any minor operation such as tooth extraction or excision of an abscess.[151] Food preparation was similarly constrained by the dictates of caste: 'A number of the

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[148]Farrer. *The Professional Work of the Farrer Hospital*; Farrer. *Medical Work in the South East Punjab*.

[149]Bisset, M R. 'Story of the Farrer Hospital, Bhiwani'. *Fifty Years*. p. 14.

[150]*Census of India*. (1901). Vol. XVII, The Punjab. Part I. p. 337; *Census of India*. (1911). Vol. XIV, The Punjab. Part I. p. 411. The Census Commissioner in 1901 found evidence that strict Hindus could take water from some of the lower castes, providing the caste-member did not perform services on the dead or take clothes from a dead person. In 1911, the Commission report for the Punjab stated that a Hindu could take water from any touchable Hindu, Jain or Sikh and could share a well with a Mohammedan. Water could not be taken from a well used by an untouchable. The missionaries were not only non-Hindus and, therefore, untouchable, but they also had contact with dead bodies making them doubly defiling.

[151]Farrer. *Fifty Years*. pp. 4-6; Farrer. *Report to the Medical Mission Auxiliary*. (April, 1906).

patients are too poor to provide their own food, therefore a hospital cook is needed who must be a Brahmin in order to avoid defiling the caste of any patient'.[152]

Ellen's vexation over the caste system, while publicly unobtrusive, was more than evident in her scathing and acid private comments about the activities of the Brahmins. The village of Khakan, three miles away from Bhiwani, was inhabited entirely by Brahmins 'with a sweeper to do their dirty work' and this community, along with the high-caste inhabitants of Bhiwani town, provided Ellen with her insight into brahminic practices.[153] For example, she was intrigued by the significance of the seemingly annual festival of Kanaigat:

> 'The Hindus are busy with Kanaigat - a festival of special cooking for the Brahmins, to make things easier for the souls of the departed ancestors or transmigrations. They do not all do it at once and I suspect that the Brahmins arrange it to suit their own convenience. I questioned one of the outpatients about the custom and asked him how long they had to serve for each soul - he said it was seven rebirths for every death, so basically every family ends up needing to do it every year, though at different times!'[154]

She was even less impressed by the attempts of the Brahmin priests to influence the weather, although this she regarded as merely amusing rather than deliberately manipulative: 'The Brahmins are supposed to be trying to bring rain by reciting mantras!', 'two gynaecological operations and many abscesses - but no rain despite the Brahmins'.[155] Brahminical tenets, like other caste and religious mores, sometimes inhibited medical practice and caused unnecessary suffering to the patient. Ellen described one such case to her sisters, her tone betraying both her exasperation at the intractable rites and her compassion for the victim:

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[152]Farrer. *The Medical Work of Missions.*
[153]Letter from Ellen to her Sisters. (July 26, 1925).
[154]Letter from Ellen to her Sisters. (October 2, 1917).
[155]Farrer. Personal Diary. (September 21, 1902), (September 23, 1902).

'On Saturday afternoon I had to operate on a very ill patient who had come in from a distant village. This was another "too late" case and I was not at all keen on operating on her, but she herself begged for it and I thought it might temporarily relieve her. She had an advanced internal malignant growth. She was a brahmini and when they found that she could not get better, her friends were very anxious that she should not die here. I did not at all think that she would reach home alive, but though I told them so plainly, they preferred to risk it and took her away in a bullock cart. There was not room for her to lie properly in it; she had to be put obliquely across it with her legs drawn up. They seemed to think the journey might take nearly 24 hours and there was a possibility of the driver refusing to go further if she died on the way. It was rather awful too to contemplate the effect of the jolting of such a cart on the poor thing, but the best we could do was to give her a dose of morphia before starting.'[156]

Thus, despite the pragmatic necessity of complying with the rituals and requirements of caste and purdah, Ellen viewed both systems with extreme disapprobation and occasionally gave vent to outright condemnation:

'three women from a neighbouring village came to the hospital for treatment of various ailments. They brought a nine year old girl, Singari, who had a recurrent fever. The women went home without her after they had been cured, but when her father came, Singari wanted to stay with us. She liked it at the hospital and wanted to stay until she was wholly better. She helped around the hospital, did little jobs to help the nurses and was generally very well behaved, but one day one of the nurses asked Singari to hold the baby of a mother who was extremely sick, but Singari refused to touch it because it was of lower-caste than her and therefore defiling. It is the great evil of caste that is such a hindrance to the coming of God's kingdom in that country'.[157]

Antagonism notwithstanding, Ellen and the other mission staff took great care to accommodate all the caste prejudices, since the main preoccupation remained the provision of vital medical care and the application of spiritual succour. Without the lure of a suitable environment and sympathetic management, the hospital would fail to provide the opportunities to tend the ills of the flesh and minister to the soul. Hence, apart from the Brahmin cook and the entirely female staff, 'there are nine

[156]Letter from Ellen to her Sisters. (March 14, 1917).
[157]Farrer, Ellen. 'Letter from Bhiwani'. *The Missionary Herald.* (November, 1912).

private cottage wards where patients can live for a small charge according to their caste rules - a privilege appreciated by strict Hindus and a source of revenue to the hospital'.[158]

If caste prejudice chafed Ellen's patience, the cultural attitude to female children was salt to the wound.[159] 'Infanticide is illegal, but girl children are often left to die, even if they are not killed. Motherless babies have a poor chance in India, but female motherless babies have virtually no chance of survival'.[160] The mission orphanage was a lifeline to these unvalued waifs and the Bhiwani station took in many infants, both male and female over the years, although the female contingent remained decidedly predominant. Babies and young children were frequently brought to the dispensary for treatment and here, too, the disparate attitude was evident. One letter illustrates this bias through the juxtaposition of two births, one a girl and one a boy:

> 'Dr Rutherford was called to a confinement where some difficulty seemed likely, and managed to persuade the patient's relations to bring her into hospital in the hope of getting the baby born alive. This happened in the afternoon, fortunately without any operation being necessary, but the baby was feeble and diseased and was only kept alive with great difficulty until the morning. While that case was going on, I was called out to a confinement. I did not stay long as there was 'nothing doing', and they promised to call me again when there should be. They called me just after the birth. This baby is a precious boy and the cause of much rejoicing, but born rather before time and so needing special care.....the hospital baby that died was a girl, so they didn't mind so much after all; indeed, I think they were only surprised that the doctor and Sister took so much trouble to try to keep it alive.'[161]

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[158]Farrer. *The Medical Work of Missions.*

[159]*Census of India*; (1911) Vol. XIV, The Punjab. Part I. pp. 243-260. Infanticide was outlawed by the British in 1870. The traditional reasons for female infanticide, such as women being an encumbrance in times of warfare, had largely disappeared, leaving only the financial incentive: 'The desire of persons of high status to maintain the dignity of their position compels them to ruinous expenditure at the marriage of their daughters'. Nevertheless, infanticide was in definite decline by the end of the nineteenth century, although the lesser social, political and economic value placed on a female child continued.

[160]Farrer. *Report to the Baptist Missionary Society.* (April, 1897).

[161]Letter from Ellen to her Sisters. (August 2, 1925).

Another incident was even more graphic:

> 'Another patient died in the hospital under very sad circumstances. She was a Hindu girl, bought into hospital only about two days before from a village at least 20 miles away, very ill with heart disease and dropsy. How she stood the journey, part at least of which was by camel, I don't know. The woman who brought her was only a neighbour, not a relation, and did not stay. It appeared later that though she had parents they were tired of her long illness and had sent her here with the idea that if she got better enough to be useful, well and good, and if she died, she died! After a day or so in hospital, she ran a up a temperature of over 103, so I took a lot of trouble to write to her father, paying 8 annas extra for a messenger to take the telegram to the village from the nearest office at Dadri. It was returned the next day marked "unknown". Meanwhile the girl had died and, after waiting for the father to turn up as long as I dared, - too long under present climatic conditions of damp heat - I wrote to the secretary of the Seva Simiti (Hindu social service society) and with difficulty got arrangements made for the cremation. The Seva Simiti is short of funds, so I shall have to try to get the money out of the Municipal Committee which is also, I believe, hard up. The girl's people were doubtless poor, but the utter heartlessness of their behaviour seems almost unbelievable.'[162]

Their behaviour was revealed to be marginally less callous when the father duly turned up, albeit *ten years* later![163] Male children were, in contrast, longed for, favoured, and protected: 'We have a tetanus patient, a young boy who is the son of a barber-surgeon. He is the only son in seven families, and consequently very precious!'[164] The importance of the male child led to a substantial number of sterility cases consulting at the hospital. 'They come because of the repute of the hospital and because of the desperate desire for a son in India'.[165] Nevertheless, urgent as the wish for a male child was, to be barren and childless was worse than a multitude of daughters. Ellen saw several cases of women ardent to produce a living child, against all the odds:

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[162]Letter from Ellen to her Sisters. (August 16, 1921).
[163]Letter from Ellen to her Sisters. (August 18, 1931).
[164]Letter from Ellen to her Sisters. (March 13, 1923).
[165]Farrer. *The Professional Work of the Farrer Hospital.*

'The patient was a low caste woman, whose three previous attempts at motherhood had all ended in operations and the birth of dead infants. She very much wanted a living child and it was again impossible that she could have one in the ordinary way, but I thought it might be possible by a different and, in some ways, more serious operation than the former ones, to save the lives of both mother and child. Her husband and friends agreed to bring her into hospital for this. The result was a fine baby boy, weighing over 7lbs, who cried quite lustily; and for a day or so the mother also seemed to be doing quite as well as we could expect. Then she began to develop untoward symptoms and though we did everything we could think of for her, it was all in vain. She died from peritonitis yesterday. It has been a great disappointment, for I did hope to be able to save both her life and the baby's.'[166]

Another case involved a baby brought in with opium poisoning. The mother had been barren for eight years prior to his birth, and was devastated by the loss of the precious child.[167]

OBSTETRICS, GYNAECOLOGY AND THE DHAI

Despite the varied nature of medical work in India, the practice at Bhiwani largely revolved around obstetrics and gynaecology.[168] Female diseases and complications during childbirth were the two conditions in which male presence was absolutely prohibited, even among the most lax and low-caste families. The mission offered a lifeline to both mother and child, and women came from considerable distances in search of relief from often chronic trauma. Yet this did not mean that Ellen and her fellow professionals were greeted with open arms and willing co-operation. Instead they fought against prejudice, custom and the stranglehold of the native dhai in the battle to bring parturition into the hospital. Many aspects of the native birth culture pained Ellen, from the woefully young brides to the iniquitous practices of the dhais. Indian girls, particularly those of high caste, were married very young and

[166]Letter from Ellen to her Sisters. (March 14, 1917).
[167]Letter from Ellen to her Sisters. (February 11, 1924).
[168]For example, of the cases commented on in her diary for the whole of 1902, one third were for gynaecological or obstetric trouble.

often prior to the onset of menses. They had usually been kept secluded in the Zenana from a young age, with an often deleterious effect on their health. However, since a good marriage was dependent not only on caste, financial solvency and virtue, but also on the health and bodily vigour of the woman, any deformity or ailment was disguised until after the contract had been formalised. Thus, Ellen was called to one child bride, shortly after the marriage ceremony:

> 'a call came to examine a girl of 14, just married; it was only after the wedding when she was brought to her husband's house that they discovered she was lame, which, of course, did not please his family at all! Poor child! She was bedecked with beautiful gold jewellery and fine clothes, but was very shy and frightened, although I think these women were trying to be kind to her. I found it to be a case of early osteomalacia or softening of the bones. She may get well with proper treatment and I hope they will let me have her in hospital for this.'[169]

Ironically, it was the strict observance of purdah - customary among the highest caste, wealthiest and, thus, most desirable girls - which caused, or largely contributed to, osteomalacia. Phthisis too, thrived in the close confines of the Zenana, and Ellen often saw the dire consequences of its uninhibited progress: 'called to a young mother with a very sickly new born baby. She is only 15 years old and evidently has phthisis. I explained to her relations that they should bring her into hospital for treatment, but they seemed reluctant.'[170] Ellen attributed a large proportion of the innumerable gynaecological disorders in India to child marriage, although she also indicted purdah and the ignorance of the native dhais in their proliferation.[171] For Ellen, the child brides were an object of pity and compassion:

> 'I am sitting in the patient's room writing this - very slow and the poor girl is only 15. I feel so sorry for these young mothers'; 'Confinement case, the baby was born before we could get there, but it was not breathing at all and looked as if it were dead. I found that its heart *was* beating though very slowly; so we spent

[169]Letter from Ellen to her Sisters. (February 13, 1933).
[170]Letter from Ellen to her Sisters. (May 12, 1929).
[171]Farrer. *Medical Work in the South East Punjab.*

some time trying to resuscitate it, but in vain. After a while, the heart stopped, so it was no use going on. The poor little mother, a girl of only 16, had a high fever and seemed very ill. They were of good caste, Brahmin, but seemed poor.'[172]

If she had compassion for the young mothers, Ellen had nothing but contempt for the dhais. In the course of her career, she saw countless cases of botched deliveries which frequently resulted in the death or maiming of mother and child:

'A poor mother who has suffered the treatment of ignorant dhais was brought to bed on Wednesday. I hope the damage may be less than I feared, but she is likely to have a long illness and may feel the effects for the rest of her life, and she is only 16'; 'I arrived at the dispensary to find a woman in a cart from a village 12 or more miles away, who had been trying to give birth for four days with the 'help' of dhais. There was no time to be lost, so I did not wait to get her into hospital, but put her in the dispensary and did the operation without waiting for the proper instruments - while all the outpatients continued to mill about lining up for the dispensary outside the open door! The baby was long dead and the mother died soon after we managed to deliver her. It is so frustrating because it was a simple case for a trained person'; 'New in-patient, which proved to be a bad case of dhai's malpractices - inducing labour in a six month pregnancy with a bit of stick. Extracted the child, whose head had been damaged by the dhai, and the placenta, but the patient died soon after'; 'Twenty year old woman from a village 20 miles away in a terrible state of septic infection as the result of an ignorant dhai's attempts to get her baby born. The baby had been long dead, but the mother is very ill and it will be a wonder if she lives.'[173]

These deaths were all, in Ellen's view, preventable and the practices of the dhais provoked her to anger and disgust:

'before they sent for us, two dhais had pulled her about a lot and I shall not at all be surprised if their ignorance and mischievous mismanagement cost her her life'; 'the baby arrived just after 3 am and I was glad I had gone, for we had a difficult task to get him to breathe and I do not think he would have had a chance of living if left to the tender mercies of an indigenous dhai!'; 'confinement case took all day, but very satisfying because the patient probably wouldn't have survived if left to the tender mercies of the attending dhai!'; 'a woman was

[172]Letter from Ellen to her Sisters. (March 26, 1917), (August 6, 1923).
[173]Farrer. Personal Diary. (August 22, 1902); Letter from Ellen to her Sisters. (August 7, 1917), (August 12, 1923), (October 20, 1929).

brought in with urgent symptoms - I am inclined to think that most of her trouble was down to the downright malpractice and wickedness of the dhai!'; 'poor little mother who had been under the ministrations of a dirty old dhai!'[174]

It was not only in cases of mismanaged parturition that Ellen was faced with the legacy of the dhai's ministrations. She also quoted instances of chronic debility emanating from an encounter with a native accoucher, such as the 'case of a girl with hip disease. I operated and found a bit of stick in an abscess - caused by the ministrations of the dhai in her village'.[175] For Ellen, the dhais were an unmitigated nuisance and she was more surprised by the lack of harm they did, than by the extent of the damage she witnessed.

'The ignorance and extraordinary practices of the dhais make one wonder why every woman does not die of post-partum haemorrhage or septicaemia - yet this seems very rare. Puerperal fever is very common. Dhais are usually low-caste and untrained. In a normal case they may do no worse than lubricate the parts with oil (applied with unwashed hands) and apply pressure to the abdomen. The patient has to sit on a stool and afterwards stand up against the wall while the dhai presses her own head into the abdomen and pushes so all will come away. In transverse presentations the dhai just pulls on the prolapsed limb, and in any other case is totally helpless. The doctor never knows how much the patient has been pulled about by the dhai before they call for her.'[176]

By 1933, however, the picture was much less bleak and

'one marked sign of progress here is certainly the increase in the number of maternity cases in the hospital. It really is a great thing to get these Indian women to come in and have their babies born under clean and healthy conditions instead of in the dark, stuffy, dirty surroundings that would be theirs in their own homes', 'the success of Dr Bisset's work with the dhais, and a certain leavening of public opinion in India accounts for the fact that in the last few years we have seen a considerable increase in the number of normal confinements in hospital,

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[174]Letter from Ellen to her Sisters. (August 7, 1923), (August 13, 1929), (April 4, 1917), (October 10, 1920), (January 17, 1926).
[175]Farrer. *Report to the Medical Mission Auxiliary.* (April, 1906).
[176]Farrer. *Medical Work in the South East Punjab.*

and the numbers of abnormal cases arriving *in extremis* is much less than it was.'[177]

The malpractice of the dhais *was* still in evidence in the last years of Ellen's work in Bhiwani, but the training scheme initiated by Ellen and Dr Bisset did have a definite effect. The first class had merely attempted to instil some notion of cleanliness into the birth process, but later classes provided instruction in the proper techniques for transverse presentations and other abnormalities.[178] Association with the mission and the acquisition of some basic skills did much to enhance the reputation of the native dhais within the local community, and this phenomenon was partly responsible for the willingness of the other dhais to attend the classes. The other significant factor being the financial reward for attendance.[179] However, given the harsh treatment and the frequently fatal consequences, it is perhaps surprising that the native women continued to patronise the dhais. This was not really a matter of economy, since the mission doctors were not overly expensive and in cases of poverty gave their services free or at a nominal cost. It was, instead, a matter of cultural custom. The dhais respected and observed the birth rituals and superstitions, and the philosophy behind the treatment they provided, lethal as it might be, was familiar to the family. Western doctors exhibited impatience and an unwillingness to tolerate the elaborate birth rituals, wedded to which was the employment of such exotic paraphernalia as chloroform, clinical instruments and untraditional techniques. Native families, therefore, continued to favour the dhai and to call the clinician only as a last resort, or when the dhai admitted the condition of the patient was beyond her capacity. The birth rituals existed in rich profusion, being a mixture of superstitious practice and religious observation. The Bhiwani missionaries tended to view the various rites with condescending curiosity, unless

[177]Letter from Ellen to her Sisters. (August 23, 1932); Farrer. *The Professional Work of the Farrer Hospital.*
[178]Farrer. *Fifty Years.* p. 9.
[179]Bisset. *Story of the Farrer Hospital.* p. 13.

they hampered proper treatment or were deemed to be actively harmful to the patient. In 1901, Ellen described her experiences of obstetric practice and midwifery in native homes, expressing her surprise at the generally good results from

> 'operations in unhygienic, undrained native houses with no proper table on which to operate and only candle-light, unless you bring a lantern with you. Obstetric operations are commonly done on a bed of such a design that the patient continually rolls away from you unless you hold onto the bed! If you ask for a clean vessel, they sit down and clean it with dirt, and there are no clean cloths ever, so clean rags and towels have become a basic part of the obstetric kit!'

She also detailed some of the quaint traditions with which she had, perforce, become familiar:

> 'it is the custom in Hindu and Mohammedan houses to bury the placenta in the earthen floor and to block all outlets to prevent evil spirits or air that might cause fever getting in. Also in the Bhiwani region, women are made to lie in sand to give birth so that the discharge will be absorbed.'[180]

Margaret Rawson's phlegmatic attitude to the rudimentary conditions at the mission was slightly disturbed by her first experience of a home birth in Bhiwani:

> 'I noticed that among other paraphernalia which we took with us, we had a lantern in spite of its being broad daylight and I wondered why. When we reached the house, we entered a room about ten feet by eight feet with nothing but a bed in it; there was certainly a doorway, but no door and, of course, no windows and in the darkest corner the patient was huddled, her form almost indistinguishable. I ceased to wonder then why we had a lantern; but when my companion dared to tell me that this was a most respectable house compared with many others, I was hard to convince.'[181]

180Farrer. *Medical Work in the South East Punjab.*
181Rawson. 'First Impressions'. pp. 333-334.

To Ellen, the rituals surrounding the birth were at best a hindrance to good care and at worst, an outright hazard to the mother. She described arriving at one confinement

> 'to find all the traditional unhygienic and evil practices in full swing - a hot, darkened, stuffy room with a charcoal brazier close by the patient's bed, beside which an old woman was sitting nursing the baby and tending it by warming her oiled hand over the fire and then passing it over the child's head and body. The house is one of the largest, if not *the* largest, in Bhiwani, and the room was not so small as we usually find set apart for a new baby and its mother; but they had so shut it in and curtained it that even in the daytime a little oil lamp on a wall bracket gave only a dim religious light, and I could see nothing properly until I made them open one of the doors - only to close it, I doubt not, as soon as my back was turned'.[182]

Some superstitions were merely odd and posed no immediate danger to the health of the patient:

> 'called to a confinement case - all the superstitions were observed, including the one where a dried plant is put in water and swells, and is brought to the patient to look at to hasten the birth, also passing the salt over her body - the significance of which I have yet to find out, and the iron chain around the bed to keep the evil spirits away. But they were enlightened enough to let us have the windows open'.[183]

Despite being generally unenamoured by the customary rites, Ellen and the other doctors were prepared to tolerate the less hazardous elements of birth ritual, although they did insist on some provision of ventilation and light. Yet, no matter how genuine their motives or how tolerant their attitude, they were still frequently turned away from confinements or barred from doing what was necessary by the relatives and friends. Reasons were not always given, but Ellen's diary carries a recurrent theme of such incidents:

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[182]Letter from Ellen to her Sisters. (August 2, 1925).

[183]Letter from Ellen to her Sisters. (August 13, 1928). Both Hindus and Moslems used the dried root in water technique, although the Moslems maintained that the root came originally from Mecca.

'to see a private patient. Family played around, but finally called me back in the afternoon. Had to do a craniotomy for a contracted pelvis, horrible business. Got her delivered in a better condition than might have been expected'; 'summoned in the evening to a case of abortion with retained placenta. Achieved nothing but tussles with the patient's friends'; 'confinement case refused to follow rules and instructions and did not want me back'; 'had to go out to a miscarriage case where they evidently didn't want me to do anything'; 'three times to the caesarean patient, but so bad I did not expect her to live. Called to her again at 10pm, but she was near dying so they wouldn't let me do anything'; 'went to a confinement case and got in for a long night because of the prejudice of the patient's friends who would not let me use the chloroform'.[184]

Post natal care was similarly bound by tradition and 'the patient is kept lying down for about six days, given nothing but a few sips of hot water for the first three days and then allowed halva only!'[185] Seclusion was maintained for varying periods, although traditionally the woman was not meant to leave the house for 40 days and was not allowed to bathe until after the fifth day.[186] Antagonism at the actual time of birth was often minor compared to the hostility displayed towards the doctor on her return visit. The Bhiwani mission did have some success in dispelling much of this hostility, and Dr Bisset described the gradual transition of attitude from curt dismissal to eager anticipation:

'in the early days when we called at the house the next morning, after saving the life of mother and child the night before, we were greeted by the mother-in-law barring the doorway of the patient's room and asking us what we wanted. We patiently explained that we had come to attend to the patient and infant. Gruffly, we were told there was no admittance. As the years passed, if we failed to visit our patient the next day, we were greeted in the doorway with "we expected you all day yesterday and you did not come. What hindered you?" An extra busy day in hospital was not accepted as sufficient excuse by the young mother who longed to see us again'.[187]

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[184]Farrer. Personal Diary. (April 14, 1902), (May 25, 1902), (June 9, 1902), (November 26, 1896), (September 12, 1909); Letter from Ellen to her Sisters. (January 23, 1917).
[185]Farrer. *Medical Work in the South East Punjab*. Normal diet was not resumed for a further eleven or twelve days. *Census of India*; (1911) Vol. XIV, Part I, p. 298.
[186]*Census of India*; (1911) Vol. XIV, Part I, p. 298.
[187]Bisset. *Story of the Farrer Hospital*. p. 13.

The Bhiwani doctors became respected and were welcomed in the majority of cases, although there were always recalcitrant examples. Obstetric practice blossomed as a result of both the efficiency of the practitioners and the work with the dhais, but the missionaries main aim was to gradually transfer childbirth, even in normal presentation, to the hospital.

Cases of obstetric emergency were commonplace, but were not always the result of malpractice by the dhai or even just ignorance and delay. Instead, Ellen was called to labours where the mother was incapable of a natural birth, due to some physical constraint. For example, mothers who were so young that the pelvis had not yet widened, or women who suffered from inherent or acquired deformities, such as dwarfism or pelvic displacement. Osteomalacia was often implicated in these cases and was 'the chief cause of difficulty such as to necessitate caesarean section'.[188] Instances detailed by Ellen included

> 'a mother brought in, who had been in labour for three days - I couldn't birth her. She was a dwarf and already septic, so I decided not to do a caesarean. I suppose I should have tried really, although she would probably have died of sepsis - but she died anyway', and 'another caesarean on a poor deformed woman whose baby couldn't be born any other way'.[189]

Disease in general could cause innumerable difficulties in labour for both the mother and child, and Ellen saw first hand the deleterious effect of malaria, plague, tuberculosis and other common afflictions on parturition:

> 'a baby born with breathing difficulties because the mother was suffering from malaria'; 'a sad case yesterday, a woman in expecting her first baby and suffering a high fever - but it was only in the afternoon that she developed definite signs of

[188]Farrer. *The Professional Work of the Farrer Hospital.*
[189]Letter from Ellen to her Sisters. (September 5, 1920), (February 15, 1923), (March 14, 1917), (March 26, 1917), (August 2, 1925).

> plague. They moved her into a private ward, but that night her baby was born dead and she died soon after, as happens almost always in such cases of plague.'[190]

'All known complications of pregnancy are met with, such as eclampsia, puerperal fever, ectopic gestation (not so rare as one might think), and hydratidiform mole.'[191] Miscarriage also occurred with distressing frequency. Ellen's letters and diaries abound with entries of such cases, and she also wrote up a case of hydratid mole for the AMWI journal.[192] The complications could be further exacerbated by generally debilitated health or by the acquisition of an unrelated infection. For example,

> 'a patient with puerperal eclampsia who we treated and who was going on well, suddenly developed tetanus and died. I don't know how or why it happened and can only assume that the tetani bacteria got in through the bites on her tongue caused while she was fitting before I was called. Her friends had wiped her mouth with dirty rags.'[193]

The escalation in obstetric cases was matched by a growth in the gynaecological practice, and the surgical register was increasingly augmented by a vista of operations for conditions such as uterine prolapse, ovarian cystomata, and fibroids. Uterine and ovarian cancer were 'not uncommon, but usually not presented until they were inoperable', while 'salpingitis resulting from gonorrhoeal and septic infection was equally common, as were all types of pelvic inflammation.'[194] Much of this latter category was attributable to venereal disease, and Ellen found syphilis to be 'terribly common, both acquired and congenital, and one is shocked to find cases of *acquired* syphilis in quite young children - apart from those occurring in

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[190]Letter from Ellen to her Sisters. (August 9, 1920), (April 26, 1925).
[191]Farrer. *The Professional Work of the Farrer Hospital.*
[192]Case Report on an Unusual Case of Hydratid Mole. (Undated); Letter from Ellen to her Sisters. (January 17, 1926); Farrer. Personal Diary. (January 15, 1899), (March 3, 1902), (July 25, 1927), (July 30, 1927).
[193]Letter from Ellen to her Sisters. (January 14, 1918).
[194]Farrer. *The Professional Work of the Farrer Hospital.*

girls of 12-15, recently married'.[195] However, despite the need for continual vigilance in identifying cases of venereal disease, 'general paralysis of the insane and locomotor ataxy (both forms of tertiary syphilis) are very rare'. In 1933, Ellen was treating syphilis with sulfarsenal 'which was usually successful'. Mercury had been the only therapy prior to the development of Paul Ehrlich's salvarsan in 1910, and sulfarsenal was a synthesised product based on Ehrlich's prototype.[196] Ovarian and uterine growths featured regularly in the operating schedule of the Bhiwani hospital, and sometimes yielded an enormous harvest. Ellen refers to 'huge papillomatous cyst', 'huge uterine fibroma', 'a 3lb fibroma uteri' and, on one occasion, 'a *42lb* cystoma'.[197] While growths, abscesses and prolapses involved significant surgery, the Bhiwani doctors also did a fair amount of dilation and curettage operations. These could be associated with a variety of conditions including miscarriage, retained placenta, fungal disease, and haemorrhage. It was also a form of early abortion, and one entry in Ellen's diary reads 'then to a curettage - abortion'.[198] However, it is not entirely clear whether she means that the operation itself was to abort the foetus, or whether it was necessary *because* of an attempted abortion. There are several references to attendance at incomplete or mismanaged abortions, and these women were admitted to the hospital: 'the new in-patient is a widow alleged to have procured an abortion'.[199] In 1902, Ellen mentions that there was 'a widow wanting an abortion' at the hospital, but there is no indication of whether this request was granted. It seems unlikely that the missionaries would have performed abortions, particularly since it was regarded as sinful, but there is

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[195]Farrer. *Medical Work in the South East Punjab.*
[196]Farrer. *The Professional Work of the Farrer Hospital*; Slinn, J. 'Research and Development in the UK Pharmaceutical Industry from the Nineteenth Century to the 1960s'. Porter, R and Teich, M. *Drugs and Narcotics in History.* (Cambridge, 1995). pp. 168-186. pp. 170 & 175. Manufacture of products based on Ehrlich's work became doubly necessary after the outbreak of the First World War, when salvarsan could no longer be imported from Germany.
[197]Farrer. Personal Diary. (December 5, 1913), (July 22, 1909), (January 26, 1914), (July 30, 1931).
[198]Farrer. Personal Diary. (May 31, 1908).
[199]Farrer. Personal Diary. (September 20, 1923), (September 20, 1896), (May 25, 1902).

no categorical evidence either way.[200] Women in India could be widowed as young as 16 or 17, given the early age of marriage, but remarriage was rarely an option. It was entirely prohibited by the Hindu creed and the Moslems in the Punjab, while operating no sacred prohibition, were traditionally adverse to the practice. Widow marriage was occasionally countenanced among some castes, particularly the agrarian sects such as the Jats, but these castes were then regarded as having a lower status. The combination of youthful widowhood and the dishonour of remarriage, led to a degree of moral laxity and the attendant need for abortion. Typically, the abortion would be performed by the use of astringent laxatives and the application of an irritant into the uterus, which procedures often resulted in excessive haemorrhage or septic poisoning.[201]

DISEASE AND MEDICINE AT BHIWANI HOSPITAL

Although the basic practice of Bhiwani was heavily centred around obstetrics, gynaecology and diseases peculiar to women, the mission still saw a wide variety of other conditions. Ellen compiled a record of the common spectrum of disease and illness in 1901, repeating the process in 1933. Comparison of the two accounts can provide an indication of the diversity and changing scope of medical work over the period, as well as illustrating the need for medical missionaries to be well-trained generalists. In 1901, Ellen stated that bronchitis, dyspepsia, diarrhoea and constipation were seen with equal frequency in India as in England, but was struck by 'the remarkable ..... prevalence of lung trouble in such a climate'. Indeed, pneumonia 'sometimes seems epidemic in the latter part of the cold season'. Of the childhood diseases, 'most exanthemata are common - measles, mumps, whooping-cough, varicella[202] - and there is a smallpox epidemic every cold season at Bhiwani'.

200Farrer. Personal Diary. (September 5, 1902).
201*Census of India*; (1911) Vol. XIV, Part I. pp. 234 & 282.
202Chicken pox.

However, diphtheria only occurred spasmodically and never in epidemic form, while scarlet fever was practically unknown 'the only occurrences experienced have been among Europeans who have caught the disease off papers sent from home'. Typhoid was 'less frequent in natives than in Europeans, seemingly', but this was perhaps because many native cases went unrecognised and unrecorded; and chlorsis[203] was unknown in natives, although anaemia resulting from malaria was fairly prevalent. Syphilis was 'terribly common, both acquired and congenital', but tuberculosis was deemed by Ellen to be less common than in England. It was 'certainly not rare', but was of less statistical significance than other disorders, which statements would support the contentions of Philip Curtin.[204] By 1933, the 'general medicine' category contained similar elements, but with the inclusion of nephritis, an increase in the prevalence of chronic rheumatism and heart disease, and a seeming decline of syphilis.[205] Typhoid had become more common, and the shadow of tuberculosis had deepened. Phthisis was the most prevalent form, but abdominal tuberculosis was 'remarkably rife' and the incidence of tuberculosis of the bones was also very high. Lupus, however, remained rare.[206] The changing picture of tubercular incidence was, according to Ellen, *actual* and not the result of better recognition or a wider base of reference. In 1929, she wrote

> '"consumption" used to be called the "white scourge" or plague, but now I am sure there must be far more of it out here than there is in England and other Western countries. It has become very much more prevalent among Indians than

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[203]Iron deficient anaemia.

[204]Farrer. *Medical Work in the South East Punjab.*

[205]Farrer. *The Professional Work of the Farrer Hospital.* In 1901, nephritis was not categorised, and both rheumatism and valvular disease of the heart were labelled 'rare in the Punjab, but common in England'. Acute rheumatism was still rare in 1933, but chronic rheumatism and general heart disease were classed as 'not rare'. Venereal disease in general was referred to as something to be 'always on the look out for', but syphilis was not specifically mentioned, suggesting that it's importance had declined. As stated above in chapter three, liver complaints and valvular heart disease were potentially indicative of syphilitic infection.

[206]Farrer. *Medical Work in the South East Punjab.* Lupus is tuberculosis of the cutaneous tissues or skin.

it was when I came out to India first, and many of their social customs and personal habits might have been designed to favour its spread.'[207]

As stated above, tubercular cases had come to dominate the surgical register at Bhiwani hospital by 1933, with the removal of intestinal obstructions and various septic conditions contributing a further significant share of operations.[208] Eye diseases and ophthalmic surgery remained common, the principal factors in 1901 being conjunctivitis, granular eyelid, corneal ulcers, cataract and glaucoma; the two latter occurring in very young subjects.[209] The picture varied little in 1933, although the new eye hospital in Bhiwani had reduced the number of cases seen at the Farrer hospital. Trachoma - formerly termed granular eyelid - and resulting distichiasis was the major cause of surgery, and cases of glaucoma had increased.[210] Gynaecology was unspecified in 1901, but in 1933 the predominant features were uterine prolapse, ovarian cystoma and pelvic inflammation.[211] Skin disease had been described in some detail in 1901, with oriental sore or Delhi boil classed as 'very common',[212] along with pimphigus contagiousis which was 'like impetigo but different enough to be classed as a separate disease by Manson, although I diagnosed it at first as impetigo and gave treatment as for that'.[213] Fungal diseases and those of 'animal and vegetable origin' were frequent visitors to the clinic in 1901, including guinea worm, maggot infestation and mycetoma.[214] Skin disease did not receive such copious notation in 1933, although Ellen mentioned that

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[207]Letter from Ellen to her Sisters. (May 12, 1929).
[208]Farrer. *The Professional Work of the Farrer Hospital.*
[209]Farrer. *Medical Work in the South East Punjab.* In 1899, a single civil hospital did 1 200 cataract operations.
[210]Farrer. *The Professional Work of the Farrer Hospital.* Trachoma caused scarring of the eye and frequent blindness.
[211]Farrer. *Medical Work in the South East Punjab*; Farrer. *The Professional Work of the Farrer Hospital.*
[212]This was transmitted by the sandfly vector and was cutaneous leishmaniasis. Kala azar is transmitted by the same vector, and is visceral leishmaniasis.
[213]Farrer. *Medical Work in the South East Punjab.*
[214]Farrer. *Medical Work in the South East Punjab.*

oriental sore was still quite common, and that tinea was seen fairly regularly.[215] Mycetoma had evidently declined too, since the case seen in 1923 was an unwelcome novelty:

> 'today's operation was for a horrid tropical disease of the skin called mycetoma. It is caused by the growth of a special kind of minute fungus which results in extensive and loathsome sores; it is very difficult to eradicate when once it has got a hold. Our unfortunate patient had one forearm nearly covered with it, and less extensive patches on the other forearm, both legs, the side of her head and face. She looks practically dressed in bandages! All the diseased skin has to be scraped away, and the operation is bound to be a rather gory business. The disease is not very common, even in tropical countries, so far as I know and we do not often have to deal with such cases'.[216]

'Tropical disease' featured prominently in both accounts, with malaria by far the most important, both in terms of mortality and morbidity, in 1901 and 1933.[217] This is supported by the evidence of the diaries and letters, which contain perpetual references to malarial incidence. It became particularly prevalent in the late summer months or during heavy rains: 'out-patient numbers are up, as they are apt to do at this time of year when mosquitoes flourish and skin troubles, dysentery and especially malaria are apt to flourish too'; 'malaria will be getting prevalent pretty soon'; 'malarial cases are up on account of the heavy rains'.[218] Quinine remained the only drug of therapeutic value against malaria, although Ellen used it liberally in treatment for various other fevers and afflictions. However, it was not always efficacious even against malarial fever, and Ellen herself suffered from recurrent and recalcitrant bouts of the disease.[219] Malaria was also implicated in the

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[215]Tinea is a ringworm infection.
[216]Letter from Ellen to her Sisters. (August 7, 1923).
[217]Farrer. *Medical Work in the South East Punjab*; Farrer. *The Professional Work of the Farrer Hospital*; Kiple, K (ed.) *A World History of Human Disease.* (Cambridge, 1993) p. 422. Malaria could cause spontaneous abortion and stillbirth, and mortality was often intensified in times of famine and high prices. Even in survivors, the ravages of the recurrent fever left the victim easy prey to other fevers and disease.
[218]Letter from Ellen to her Sisters. (August 30, 1931), (August 9, 1920), (October 2, 1917).
[219]Farrer. Personal Diary. (June 1, 1898), (March 19, 1902), (March 27, 1902), (March 29, 1902).

prevalence of ascites, being categorised in the 1901 report as 'a splenic disease in malarious countries and therefore common. Some cases though show no evidence of splenic or liver disease, and I wonder if the problem was due to chronic peritonitis possibly of malarious origin. I am not sure that the possibility of syphilitic taint can be excluded'.[220] Again, the diaries support the contention of prevalence with frequent reference to 'tapping for ascites', where 14 pints of fluid at a time would be drawn off.[221] Dysentery was classed as the second most common tropical ailment in 1933, and the large number of abscess cases that Ellen saw suggests that amoebic dysentery may have been a factor. Fever loomed large in both lists, although in 1901 it was unspecified. The 1933 report noted sandfly, seven day, dengue, and undulant or malta fever as the most common forms, but stated that kala azar was unknown in Bhiwani.[222] Cholera was 'very common' in 1901, and there had been cholera epidemics in Bhiwani in 1892 and 1900.[223] However, by 1933, 'it was rare to see cholera in Bhiwani', although there *had* been an epidemic in Dholpur in 1929. By then, though, the anticholera vaccine was available.[224] Nevertheless, cholera was regarded as a serious threat and, consequently, was greatly feared. One incident of potential misdiagnosis occurred in 1917: 'a man arrived saying that his wife was really sick with what sounded like cholera. He was not disposed to accept this though, and so making allowances for

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[220]Farrer. *Medical Work in the South East Punjab*. Modern diagnosis ascribes ascites to malnutrition and the inability of the liver to manufacture albumin, but the resultant symptom was fluid retention and enlarged spleen.

[221]Farrer. Personal Diary. (December 19, 1891), (June 7, 1902), (June 9, 1902), (June 13, 1902), (October 2, 1914).

[222]Farrer. *Medical Work in the South East Punjab*; Farrer. *The Professional Work of the Farrer Hospital*. Malta fever was transmitted through the milk of goats, (of which there were a number in Bhiwani), cattle and pigs; seven day fever was spread by field mice via their urine; dengue fever was via mosquito transmission, and sandfly fever via the sandfly.

[223]Farrer. Clinic Diary. (May 13, 1892), (April 21, 1900).

[224]Letter from Ellen to her Sisters. (August 11, 1929), (August 12, 1929), (August 13 1929); Arnold, D. 'Cholera and Colonialism in British India'. *Past and Present*. Vol. 113, (1986). pp. 118-151. pp. 146 & 149. Haffkine had developed the vaccine in the 1890s, but the British authorities had been reluctant to sanction it's use both because of fears of public hostility, native prejudice and superstition, and because of doubts about it's efficacy. By the 1920s though, their attitude had changed and they began to promote cholera prophylaxis.

oriental hyperbole, I concluded it was probably acute dyspepsia and sent pills. She recovered swiftly.'[225] Ellen herself breathed a sigh of relief when 'suspicious symptoms' of one of the Bhiwani nurses turned out to be a 'false alarm, not a case of true cholera'.[226]

Bubonic plague had been of serious consequence and significant magnitude in the early years of the twentieth century, but had declined to practical extinction by the 1930s.[227] Leprosy was 'common in the Punjab' in 1901, although Ellen only refers to a single case in her entire career at Bhiwani: 'old woman with cataracts and, I think, leprosy, whose case rather exercised my mind'. In 1933, she stated that it was 'rarely seen in our part of India', and this was most probably true of the earlier period too.[228] Tetanus, however, appeared to have been a constant hazard throughout Ellen's forty two years in Bhiwani. There are constant references to it in her diaries and letters, and in 1901 it was described as 'much more common than in England'. One particularly interesting case was that of a woman from the 'luhar' caste, who were itinerant ironworkers and peculiarly susceptible to the disease.[229] Diabetes also afflicted a fair proportion of patients. In 1928, Ellen recorded that 'my medical ward is full again and two cases of severe diabetes at once - a thing I never recall before. One is a Mohammedan girl of 16, and the other a brahmini widow of 17.'[230] Heart disease and dropsy also made regular appearances, although

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[225]Letter from Ellen to her Sisters. (August 27, 1917).
[226]Letter from Ellen to her Sisters. (August 12, 1929).
[227]Farrer. *Medical Work in the South East Punjab*; Farrer. *The Professional Work of the Farrer Hospital.*
[228]Farrer. *Medical Work in the South East Punjab*; Farrer. *The Professional Work of the Farrer Hospital*; Farrer. Personal Diary. (September 12, 1902).
[229]Farrer. *Medical Work in the South East Punjab*; Letter from Ellen to her Sisters. (September 9, 1928), (May 8, 1917), (January 14, 1918), (August 22, 1923); Farrer. Personal Diary. (September 20, 1909), (August 16, 1911), (January 28, 1918), (December 18, 1922), (May 13, 1924). Kiple ascribes high incidence of tetanus in India to the use of unsterilised instruments during childbirth, particularly those used to cut the umbilical cord. Kiple, K. (ed.) *World History of Human Disease.* (Cambridge, 1993). p. 424.
[230]Farrer. *Medical Work in the South East Punjab*; Farrer. *The Professional Work of the Farrer Hospital*; Letter from Ellen to her Sisters. (September 17, 1928).

there was virtually nothing that could be done for such cases, other than 'tapping' for fluid.[231] Nor was there much hope for those presenting with malignant growth and tumours.

> 'Cancer operation. Patient doing well and came through the operation much better than one might have expected. However, it is often the way in such cases and patients often do do very well in the operation and recover very well, but the cancer so often comes back so we cannot call them cured'.[232]

Patients typically arrived in the latter stages of disease, and Ellen recorded 'inoperable cancer', 'bad cancer', 'huge tumour', 'advanced malignant disease' on numerous occasions. The majority of cases were uterine, ovarian, cervical and breast cancers, and most of the surgery done was palliative.[233] Sometimes, though, even palliative surgery was impossible:

> 'tried to do an operation on Thursday morning, but found it impossible to remove the tumour without too great a risk of the patient dying under the operation or soon after it, so we just had to leave it and sew her back up again. We had suspected that the tumour was a malignant one and so it proved, but it also proved to be much more extensive and advanced than we could tell beforehand.'[234]

Ellen did not deal exclusively with physical disease, but also had some experience with mental illness. She saw several 'hysterical' patients over the course of her practice in Bhiwani, and one in particular, Dulari, lent her a considerable reputation.[235] 'My hysterical patient, Dulari, left today - I hope cured! Her relations

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[231]Farrer. Personal Diary. (August 15, 1899), (May 28, 1920), (August 16, 1921), (November 24, 1922), (April 11, 1932); Letter from Ellen to her Sisters. (August 7,1923).
[232]Letter from Ellen to her Sisters. (July 14, 1918).
[233]Farrer. Personal Diary. (December 20, 1895), (August 15, 1899), (March 13, 1902), (April 18, 1902), (June 1, 1902), (August 7, 1902), (December 5, 1913), (May 17, 1923), (December 10, 1927); Letter from Ellen to her Sisters. (February 7, 1917), (March 14, 1917), (April 30, 1923), (August 20, 1923), (November 1, 1925).
[234]Letter from Ellen to her Sisters. (August 25, 1923).
[235]Farrer. Personal Diary. (March 4, 1902), (September 24, 1917), (January 25, 1923), (July 30, 1933).

were immensely pleased with the change in her and brought a donation of Rs 21 and fruit, as well as paying all we asked for the private ward and the medicine.' Two months later, Ellen was 'called to another 'mad' patient as a result of my success with Dulari. She was truly mad and there was no chance of my helping her, although I gave her an injection that settled her and she slept after I left'. Nor did it end there, for 'the success in treating some of the hysteria cases led to actual insane people being brought to the hospital, but we couldn't keep them because they scared the other patients too much'.[236]

'Poor India with its epidemic diseases'. Ellen's lamentation seemed an apt epitaph for the depressing tapestry of smallpox, typhoid, cholera, malaria and meningitis interwoven with the fatal and devastating threads of recurrent plague and the influenza holocaust of 1918. Successive waves of bubonic plague washed over India in 1901, 1902, 1903, 1904, 1905, 1910, 1918, 1923, 1924, and 1925, with the cataclysmic post-war pandemic of influenza arriving amid the retreating tide of 1918.[237] These epidemics led to a suspension of normal activity for the mission, and afforded an opportunity to exhibit the generous beneficence of western science, Christian spirituality and Imperial government.[238] Famine was similarly disruptive to the social and economic fabric of life, and affected Bhiwani in 1897, 1899, 1900, 1906 and 1908. Although the most potent in effect, influenza lacked the portentous horror of the plague or the creeping desperation of famine, and therefore appears to have had a less dramatic psychological effect on the community. Statistically, it

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[236]Letter from Ellen to her Sisters. (February 27, 1923), (April 15, 1923); Farrer. *The Professional Work of the Farrer Hospital.*

[237] Klein, I. 'Malaria and Mortality in Bengal, 1840-1921'. *The Indian Economic and Social History Review.* Vol. 9, (1972). pp. 132-160. p. 135. Plague, influenza, famine and malaria accounted for over 50 million deaths in India between the 1890s and 1920. Malaria was a permanent hazard, and the most deadly, but although it could reach epidemic proportions, it did not have the overwhelming impact of the plague or the post-war influenza pandemic.

[238]Farrer. *Fifty Years.* p. 7.

was calamitous.[239] There were 'flu' epidemics in Bhiwani both before and after 1918, but India and the rest of the world were unprepared for the overwhelming virulence of the post-war pandemic strain.[240] Indeed, evidence suggests that India was hit hardest of all by the disease, with an estimated mortality of between 12 and 18 million.[241] As soon as the epidemic hit the Punjab province, Ellen was immediately despatched to Dholpur to assist the medical personnel there. However, she remained aware of conditions in Bhiwani through the faithful traffic of letters from Annie Theobald:

> 'Annie writes of 70 deaths a day from flu at Bhiwani - which is more than the 50 deaths per day during the very worst of the plague. Dholpur is even worse with 175 deaths today and 195 yesterday, and yet the population of Dholpur is half that of Bhiwani, which makes the proportion of mortality greater'.

Ellen's concern radiated beyond India to her family in England, which was to be engulfed by the third wave of the pandemic spread: 'I do hope you have been spared this scourge, it reminds me of the 1890 epidemic in London'.[242] Three quarters of the population of India are believed to have been afflicted by the disease, with mortality rates equally immoderate. In the Punjab, not the worst affected province, mortality reached 46 per 1 000.[243] The influenza epidemic was, nevertheless, an isolated and extra-ordinary occurrence and, despite the grievous mortality, had little long-term impact on the cultural psyche.[244] In contrast, the appearance of bubonic

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[239]The epidemics notwithstanding, malaria remained the single most lethal disease in India throughout the period.
[240]Farrer. Personal Diary. (January 29, 1892); Letter from Ellen to her Sisters. (May 15, 1932).
[241]Mills, I D. 'The 1918-1919 Influenza Pandemic: The Indian Experience'. *The Indian Economic and Social History Review.* Vol. 23, (1986). pp. 1-40. p. 10. An estimated 21.5 million people died worldwide, with 12 million alone being in India. Adjusted figures suggest the Indian figure was nearer to 18 million, but a corresponding correction has not been done for the world figure.
[242]Letter from Ellen to her Sisters. (October 22, 1918), (October 26, 1918).
[243]Mills. 'The Influenza Pandemic'. pp. 12 & 27.
[244]Nikiforuk, A. *The Fourth Horseman; A Short History of Epidemics, Plagues and Other Scourges.* (London, 1991). p. 146. Antony Nikiforuk attributes this psychological magnanimity to the relatively benign visitations of 'flu' over the preceding centuries. He maintains that familiarity bred,

plague elicited panic and flight, although the death rate it engendered was practically a trickle compared to the flood of influenzal mortality. The affluent fled to the salubrious safety of the hills, while those unable to escape were left to languish in the wake of infection. The afflicted were treated with a mixture of the ultra modern, in the form of vaccine and serum, and the almost medieval tradition of lazarettos. Plague camps were set up, where the infected and dying were left in tented isolation. Ellen and her colleagues treated those they could, visiting the sick and offering inoculation to any who were willing to accept. In 1905, a plague officer from England came to India to observe and aid in the epidemic, and he made his headquarters at Bhiwani.[245] Plague visiting was 'very sad and disheartening work' that got no less tragic with the successive epidemics.[246] The earlier epidemics produced a mortality peaking at 30 deaths a day, but the 1918 visitation showed little sign of lenience:[247]

> 'Plague is increasing and all the wealthier inhabitants have fled', 'the plague is very bad, the plague victims are left in shelters in the fields to die', '1 400 inoculations so far, more than ever before. I have never seen the plague so bad', 'it seems these days we can hardly think or speak of anything but plague', 'saw my youngest plague victim ever today - 6 months old'.[248]

In 1918, the plague was accompanied by a plethora of other endemic and epidemic pestilence, including measles, smallpox and relapsing fever; while the influenza waited menacingly in the wings. Nevertheless, the efforts of the missionaries to alleviate the suffering of the plague victims found favour with the secretary of the Municipal Council, who was so impressed by the tenacity and compassion of the

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if not contempt, then certainly tolerance towards the disease, and this was not to be overthrown by the peculiar virulence of the 1918 attack.

245Farrer. Clinic Diary. (January 6, 1905).

246Farrer. Personal Diary. (December 30, 1903).

247Farrer. Personal Diaries. *passim.*

248Letter from Ellen to her Sisters. (March 10, 1918), (March 21, 1918), (April 7, 1918), (April 24, 1918).

mission that he endeavoured to get their annual grant raised 'in recognition of our plague work'.[249] The ravages began to abate in April as the temperature rose, since 'the heat seems to stop it', but even so it was still claiming 10 lives a day.[250] Unfortunately, the plague had not exhausted its virulence in 1918, and was to return yet again in the early 1920s. Bhiwani escaped in 1923, although it crept as far as Delhi where it was 'very bad'; but was not so lucky in 1924, when Ellen reported that 'plague is taking all our time and thought.'[251] Indeed, the severity of the 1924 epidemic was enough to stimulate the Government into action. The Punjab Herald reported that the plague was more severe than at any time since 1918, with mortality for March at 25 000 in the Punjab alone. The same period in 1923 had elicited just 5 582 deaths. Even so, the mortality in 1924 was not on the same scale as that produced during the early years of the nineteenth century, when the death toll for the Punjab territory had stood at between 50 000 and 90 000. The intervention of the Government was, then, perhaps less an indication of the comparative severity of the epidemic, than a sign of the growing sense of civil responsibility assumed by the Imperial Administration. A grant of Rs 20 000 for the deployment of special emergency medical staff in rural areas was the first response to the crisis, followed by a further Rs 30 000 grant for plague vaccine and inoculation equipment.[252] It was not to be the end, and the following year found Ellen once again visiting, inoculating and 'opening buboes'. In March, the epidemic seemed 'to be getting worse with the coming of the warm weather - the heat not being great enough yet to kill the plague germs'. In April, there was 'not much to write about other than plague, and you may well be rather sick of that subject'. Indeed, the plague absorbed all the time and energies of the mission personnel and,

249Letter from Ellen to her Sisters. (March 21, 1918), (April 14, 1918).
250Letter from Ellen to her Sisters. (April 28, 1918), (May 2, 1918).
251Letter from Ellen to her Sisters. (April 15, 1923), (March 30, 1924).
252Punjab Herald. 'Plague in the Punjab'. (April 5, 1924).

although some patients did recover, 'it is very sad work taken altogether'.[253] Eventually, though, the plague did disappear, the wealthy citizens of Bhiwani filtered back, and Ellen and the others returned to their customary routines.[254]

Plague evidenced the commitment and humanity of the missionaries, and 'many friends were made in this way'. However, the high mortality and tragic work was too high a price even for this.[255] If plague impelled the missionaries to greater familiarity with the populace, famine drew that community to the mission as the focus for relief. The medical mission distributed food and money, while the orphanage and school offered a place of sanctuary for orphans and children whose parents were temporarily unable to provide for them. The District Commissioner officially entrusted the Bhiwani mission with the relief of distress in 1906, providing a grant of Rs 3 000, and wealthy merchants from the town and district showed equal confidence in the competence and integrity of the missionaries, endowing *them* with the local relief fund rather than their own people, whose probity was deemed more doubtful.[256] In time, the Government relief measures for the entire district were put under the control of the missionaries, Annie Theobald acquiring the enduring sobriquet 'the cotton dealer Miss Sahiba' because of her work in supervising the relief: 'Every morning was spent in giving out raw cotton and receiving and weighing the spun hanks, which alas! for human nature were sometimes short in weight, the deficiency being concealed by the addition of water or small pellets of earth'.[257] The mission employed destitute women to cook chapatis, which were then 'distributed to the hungry people who came from far and near, waiting in orderly rows'. Unfortunately, the relief fund was insufficient to

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253Letter from Ellen to her Sisters. (March 30, 1925), (April 14, 1925).
254Letter from Ellen to her Sisters. (April 26, 1925).
255Farrer. *Fifty Years*. p. 7.
256*Funeral Address for Ellen Margaret Farrer*. (1959).
257Angus. 'Evolution of a Mission Station'. p. 42. She was still known by this title in 1924.

satisfy the need, and the missionaries were forced to dispense the food on the basis of privation: 'We had to pick out those whose looks palpably betrayed their sufferings, and dismiss the others foodless. Even so, the numbers rose from 200 to 600 daily and many admitted that this was their only meal'.[258] Ellen noted that the mission was feeding 300 a day in 1899.[259] Although the main focus of work during the famine years was the relief of hunger and the provision of shelter for the destitute, Ellen also tended to the victims who had succumbed to 'famine related' illnesses.[260] Malaria thrived amid high food prices and famine, and the peaks of malarial mortality in the Punjab show a malign correlation with the famine years.[261] The influenza pandemic also hit at a time of high prices and food shortage, and the exceptional mortality in India is partly attributable to the nutritional vulnerability of the population.[262] The mission staff tried to shield their own workers from hardship, and, hence, when food prices began to escalate in 1908, they began to pay the workers and servants an extra 1/- a day to try and avert malnutrition or starvation. However, even in times of relative abundance, there were still patients whose underlying problem was malnutrition. Many of the dropsical and cardiac cases were quite possibly suffering from beri-beri, and the presenting condition of ascites was also primarily attributable to malnutrition.[263] Cholera and smallpox are traditional handmaidens of famine, and it is therefore unsurprising that the two cholera epidemics in Bhiwani coincided with periods of dearth in 1892 and 1900. Smallpox was an ever-present hazard in Bhiwani and yearly epidemics were a consistent feature, with or without the assistance of famine. Specifically diagnosed nutritional illnesses are rarely mentioned in Ellen's diary, although they were

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[258]Angus. 'Evolution of a Mission Station'. p. 42.
[259]Farrer. Clinic Diary. (October 17, 1899).
[260]Farrer. Personal Diary. (December 3, 1896).
[261]Kiple. *World History of Human Disease.* p. 416.
[262]Kiple. *World History of Human Disease.* p. 424.
[263]Kiple. *World History of Human Disease.* p. 607 & 689.

probably very common, the only case referred to being that of a child brought in with suspected scurvy in 1911.[264]

The work at the mission hospital was, then, varied and challenging. Diseases ranged from those common to England and familiar to the newest recruit, to the tropical panoply of epidemic infections, parasitic infestation and assorted miseries of the flesh. Between identifying disease and formulating therapy, the doctors had also to overcome prejudice, side-step superstition, coax the nervous into surgery, generate funds, organise supplies of medicine and educate the probationers. All this, under the burning sun of an inhospitable climate and amid the dangers of the tropical environment, had an almost universally adverse, and sometimes fatal, effect on the health of the European mission workers. Ellen, herself, suffered a veritable array of disease during her time in India, being invalided home on three occasions and suffering from various maladies in-between. The theory of acclimatisation would seem, at first glance, to attain some degree of proof from the Bhiwani experience, since the arrival of each European heralded a series of afflictions. Ellen began with chilblains, boils, a persistent abscess of the ear, and a bout of malaria which necessitated a two month banishment to Simla while she recuperated;[265] Dr Shepheard succumbed to colic within weeks of arriving;[266] Dr Bisset fell victim to pneumonia within a week, swiftly followed by the combined evils of scarlet fever and malaria, and less than six months later was afflicted by dengue fever;[267] and Mary Guyton's first encounter with the Indian continent resulted in immediate fever and dysentery.[268] However, acclimatisation supposes a gradual decline in the incidence of affliction, and for Ellen this was not the case. By 1900, she had

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[264]Farrer. Clinic Diary. (March 18, 1911).
[265]Farrer. Personal Diary. (December 15, 1891), (February 3, 1892), (May 10, 1892).
[266]Farrer. Personal Diary. (December 30, 1901).
[267]Farrer. Clinic Diary. (December 10, 1907), (December 17, 1907), (April 18, 1908), (November 19, 1908).
[268]Farrer. Clinic Diary. (November 4, 1918).

suffered suspected typhoid, jaundice - for which she was again sent to Simla for two months, recurrent malaria - with sojourns in Delhi and London for convalescence, mumps, toothache, and constant headaches.[269] In 1900, she was invalided home for an unspecified illness of such severity that it seemed certain to preclude her ever returning to Bhiwani. However, her own determination and the kind offices of the LMS and Dr Eleanor Shepheard enabled her return - although from then on, she was provided with a medical colleague.[270]

Nevertheless, her restoration saw no evidence of a decline in susceptibility to illness, and she almost immediately embarked on an episode of malaria, followed swiftly by an attack of abdominal pain with fever. Her weight, by the middle of 1902, was only 6 and a half stone.[271] Three further bouts of fever, one with accompanying diarrhoea, concluded the year, and then followed two years of relative health.[272] 1905 brought a chronic abscess and a six month removal to Simla; and then another lull, merely punctuated by headaches and toothache, before her furlough in 1911, which was prolonged due to ill health.[273] She returned again in 1912, and managed three years before developing a poisoned finger, which resulted in widespread inflammation and an enforced two year convalescence in England.[274] The next four years saw her 'plagued by my horrible headaches', suffering influenza during the pandemic, and covered in boils: 'I have got boils all over me and am bandaged all over my hands and face. Some of them are showing signs of sepsis'.[275] This was a mere interlude before the return of the lymphangitis:

269Farrer. Clinic Diary. (August 26, 1893), (May 10, 1894), (May 31, 1894), (June 8, 1898). Farrer. *Fifty Years*. p. 6.
270Farrer. *Fifty Years*. p. 7.
271Farrer. Personal Diary. (March 19, 1902), (March 25, 1902), (May 12, 1902).
272Farrer. Personal Diary. (May 21, 1902), (August 9, 1902), (October 7, 1902).
273Farrer. Personal Diary. (April 12, 1905), (October 26, 1905), (February 20, 1906), (September 25, 1907).
274Farrer. Personal Diary. (March 30, 1915).
275Letter from Ellen to her Sisters. (April 12, 1917), (October 22, 1918), (September 5, 1920).

'I am sick with a septic finger and have been sent to Palwal hospital and then transferred to the Lady Hardinge Hospital at Dholpur, where they have a full pathology unit and can find the germ out. I am to be invalided home though, alas!', 'they have found the germ and are hoping to develop a vaccine of it to treat me with'.[276]

After nearly two years recuperation in London, she returned to Bhiwani and quickly succumbed to malaria, which continued to plague her until her final departure in 1933. In the intervening years, she also contracted dengue fever and was laid up for two months with colitis.[277] Despite this formidable catalogue of sickness and the enforced absences in London, Ellen never once entertained the idea of giving up her work in Bhiwani. The first time she was invalided home it seemed the decision would be made for her, but fate in the guise of the LMS and Dr Shepheard, stepped in. The third time it was deemed necessary to send her home, she was left with a crippled hand. Nevertheless, her resilience and determination overcame each disappointment, and she was even reluctant to forego her share of the mission work when she *was* unwell. She battled on while her 'head ached wretchedly all day', and 'did not let on to anyone' when colitis and fever assailed her.[278] Her European colleagues were no more resistant to the host of disease and illness, and succumbed variously to whooping cough, shingles, the inevitable malaria, abscesses, boils, cellulitis, influenza, heart trouble, sandfly fever, relapsing fever, seven day fever, typhoid and dengue fever.[279] In 1923, an epidemic of dengue fever reached Bhiwani and infected virtually all the missionaries and most of the Indian staff.

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[276]Letter from Ellen to her Sisters. (February 14, 1921), (February 22, 1921).
[277]Letter from Ellen to her Sisters. (April 10, 1923), (August 25, 1923), (October 7, 1923), (December 2, 1923), (April 20, 1924), (November 8, 1925), (January 15, 1928), (August 30, 1931).
[278]Farrer. Personal Diary. (April 16, 1902), (September 25, 1907).
[279]Farrer. Clinic Diary. (March 31, 1895), (November 21, 1904), (October 15, 1918), (April 16, 1919), (September 16, 1920), (September 20, 1920); Farrer. Personal Diary. (August 10, 1894), (August 15, 1899), (March 27, 1902), (April 1, 1902), (November 20, 1909), (January 25, 1914); Letter from Ellen to her Sisters. (October 2, 1917), (April 21, 1920), (April 30, 1923), (August 6, 1923).

Amazingly, only once did sickness turn to tragedy, when enteric fever killed Sister Emily Gautrey in 1914.[280] The native staff were certainly not immune to these diseases, but appear from Ellen's diaries to have suffered less frequently. However, there were several deaths and it may be that Ellen simply did not catalogue the Indians sicknesses as comprehensively as those of the Europeans.[281]

Ellen returned to England in 1933, and lived for a further 26 years until the age of 94. Her health was not shattered by her undeniably taxing years in India and, although never robust, she continued to work for the BMS General Committee in an administrative capacity. She dedicated her life to the relief of the sick, the people of Bhiwani, and the work of evangelism; and her sacrifices of time, energy and health were duly recognised both by the Indian Government, who awarded her the Kaiser-I-Hind medal (silver class) in 1913 and (gold class) in 1928, and by the BMS who made her an honorary member of the Committee in 1943.[282] Her legacy and reward was a hospital in her own name, which stood as a monument to her energy and commitment, and to the appreciation of the inhabitants of Bhiwani.

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[280]Letter from Ellen to her Sisters. (October 7, 1923), (October 28, 1923), (November 11, 1923); Farrer. Clinic Diary. (April 19, 1914), (May 18, 1914).

[281]Farrer. Clinic Diary. (October 5, 1908); Letter from Ellen to her Sisters. (August 16, 1921). The nurse's chaperon, Nasiban, died of dysentery. Janet, the blind Indian hospital evangelist died of unspecified causes. The native servants and nursing staff were similarly afflicted with dengue fever, dysentery, diarrhoea, sandfly fever, cellulitis, abscesses and sundry fevers.

[282]*Obituary of Ellen Margaret Farrer.* 'Memoirs of Ministers and Missionaries'. (The Baptist Handbook. 1961). p. 347. Dr Bisset was also awarded the silver class Kaiser-I-Hind in 1919. Ellen's medals are included in the collection held by the Angus Library, complete with their velvet lined boxes.

Afterword

The legacy of Dr Ellen Farrer is a glimpse of the human face of colonialism. Her letters, diaries, speeches and articles paint a picture of life at the edge of frontier medicine and illustrate her attitude towards India, colonialism and the natives. Collections of such colour and confidentiality are rare, which makes it difficult to gauge the coeval conformity of Ellen's experiences and opinions. However, comparison with the received wisdom of contemporary commentators and historical analysis, provides a standard against which they may be measured. Her medical training was unremarkable, although her choice of profession was still regarded by some as slightly unconventional and even distasteful. However, her unavailing efforts to enhance her skills through postgraduate study give ample illustration of the barriers still operating against female practice in England. Despite a first class degree, neither she nor her fellow graduands could procure a clinical appointment at any of the hospitals, including the Royal Free, although Ellen was eventually offered a brief residency in the New Women's Hospital, later renamed the Elizabeth Garrett-Anderson. In the over-crowded ranks of the profession, post-graduate study was a virtual pre-requisite for advancement to any prestigious appointment in the medical field, without which prospects of employment would be severely restricted. Ian Waddington maintains that the profession was *not* significantly overcrowded, and that female doctors would have had adequate opportunity to build a practice - a view supported by Sophia Jex-Blake in 1887. However, the perception that the profession was congested would have acted as a sufficient deterrent to those contemplating individual ambition in general practice. Ellen Farrer had little intention of such a career. Her heart had been set on India even before she entered

the LSMW, and she lost no time in making herself available for service following her successful qualification.

Elizabeth Garrett-Anderson and Isabel Thorne had warned of the professional isolation and difficulty of practice in the mission field, and there can be no doubt that Ellen experienced both. However, she was fortunate in having the companionship of Isabel Angus and Annie Theobald from the start, and her diaries give clear indication of the close bonds that developed between the three women. Isabel and Annie met her at Ulwar in 1891 and accompanied her back to Bhiwani, and Isabel began using her pet name, Nellie, almost immediately.[1] The camaraderie and support of the community at the mission bungalow is evident from the brief notations in Ellen's diaries, which describe the detail of daily life and leisure; and the close bonds between them were a vital component in the manufacture of stability and sanity in an alien environment. Nevertheless, the *professional* isolation continued for ten years until Ellen returned from England with Dr Shepheard in 1901. From that point on, Ellen nominally had a medical colleague permanently stationed at Bhiwani with her, although furloughs, holidays and secondments frequently resulted in the temporary resumption of the early isolation. The only other European medical representative in the district was the civil surgeon, and relations with him, the government hospital, municipal committee and the central administration remained amicable, with only very rare instances of pique or annoyance on either side. However, since the Bhiwani mission was not under the jurisdiction of the Dufferin Committee, the question of superiority or control over the management of the hospital or over the surgical treatment of the patients was never an issue. Indeed, Ellen was called to help the civil surgeon with cases at his hospital, although reciprocity was impossible because of the necessity of

[1]Farrer, Ellen. Personal Diary. (November 12, 1891).

maintaining strict purdah at the mission. Thus, Ellen was entirely dependent on her own abilities as surgeon and physician and, even when she was blessed with a medical companion, there were still times when she was left to struggle alone. One example, illustrative of the sense of isolation, comes from an entry as late as 1923:

> 'Dr Parkinson arrived on Wednesday and stayed until Friday afternoon. It was a great help to have her here, although the particular operation for which I had asked her to come proved very disappointing. We tried to do it on Thursday, she operating and I assisting, but found it impossible to remove the tumour without too great a risk of the patient dying; so we just had to leave it and sew her back up again. We had suspected that the tumour was a malignant one, and so it proved; but though the result was so disappointing, I felt it quite worthwhile for my own peace of mind to have Dr Parkinson to share with me the responsibility of such a decision; and as it happened she was pleased to come as it gave her the opportunity to talk over some of her cases and to see two operations she had not herself done or seen previously.'[2]

Dissemination of information and new technique was, and is, a vital part of medical practice, and one which suffered in the conditions of field medicine in the colonies. Only during furlough or by visiting a nearby hospital could doctors see and study the latest procedures and, although the major journals were available in India, Ellen found she had insufficient leisure or energy to devote to them. George Basalla explored the issue of the professional alienation among by European doctors overseas, and affirmed the necessity for a separate academic network within the new environment. The AMWI was one such example of this, and proved to be a great boon to the medical women in India. It ran courses, held seminars, published its own journal, and provided a professional support base for the women doctors, and Ellen took full advantage of the opportunities it offered - acting as treasurer and secretary, attending courses as and when she could, and contributing to the journal. Her career also bought acquaintance with many of the famous names in female medicine, from Elizabeth Beilby and Mrs Scharlieb to Ruth Young and Margaret

[2]Letter from Ellen to her Sisters. (August 25, 1923).

Balfour, authors of 'Medical Work for Women in India'. Nevertheless, for Ellen, the *practice* of medicine and the pursuit of spiritual enlightenment remained paramount, and it is her experience in medicine among the native population that provides the greatest degree of novelty, while the quality of her descriptions are of rare depth and candour.

Ellen carried all the innate assumptions about the superiority of western civilisation and science with her to India. She did not doubt for a second that the colonial influence was beneficial to the native population, and was less than impressed by anti-British sentiment and the activities of Mr Gandhi. Her remarks on native civilisation are markedly patronising, although her intentions were entirely humane and compassionate. Her professed wish was to enable the Indian people to lead better, happier lives and she genuinely believed that the best, if not *only* way, for them to achieve this was to convert to Christianity, abandon all their traditional practices, and follow the European model. Although allowing India to have attained some level of civilisation already, she still regarded it as primitive and heathen, and thought it vital to expose the population to the superior culture of Europe before the window of opportunity was lost: 'Japan and China are assimilating Western ideas and culture, and even India is too, despite the fetters of tradition and caste. It is vital to expose India to the wonders of western civilisation while the window of opportunity lasts, especially in places like Bhiwani where missionaries are the only European presence'.[3]

Her attitude to indigenous medicine was similarly intransigent. She saw little to praise and much to condemn in the practices of the vaids, hakims and dhais. Ayurvedic healing may have had its origins in Greek medicine, but to Ellen it

[3]Farrer, Ellen. *Report to the Medical Mission Auxiliary.* (April, 1906).

appeared highly reminiscent of the barbaric practices of medieval England. Her contemptuous dismissal of the native arts was perhaps a little ironic, however, given the primitive state of western medicine prior to the late nineteenth century. Indeed, Ellen herself continued to use 'heroic' drugs such as calomel and the infamous 'dover's powders', which were almost certainly as hazardous to health as the vilest concoctions of the most backward hakim. The dhais, on the other hand, boasted no venerable tradition of Greek heritage, but instead garnered their reputation for expertise from the perception of a hereditary line of healing. They were, nevertheless, a source of irritation and concern to the mission, particularly as they operated exclusively in the sphere targeted by the Zenana campaign. The dominance of the dhais meant that Ellen initially saw *less* obstetric practice than she might have done in England, although gynaecological patients - some bearing the scars of combat with the dhai - were common. The dhais were similarly hostile to the western doctors, and spread rumours about the nefarious practices of 'white doctors' among their clientele. However, Ellen was able to inculcate the beginnings of co-operation and sympathy between the two agencies, when she treated the grandson of one of the most venerable dhais at the clinic. The dhai accompanied the child to the hospital and, during the treatment, told Ellen about her midwifery practice and the difficulties she experienced with malpresentation. Ellen offered to come to any cases which eluded the skills of the dhai, and this subsequently led to several calls to private obstetric cases and a corresponding rise in the reputation of the dhai concerned. This contact made the initiation of dhai training by Dr Bisset much easier, since Ellen's dhai was instrumental in securing co-operation among the others.[4] Her disdainful and condescending attitude to native medical practices did not betray Ellen into public criticism of the hakims, dhais, superstition or caste issues. Instead, she maintained a patient and tolerant posture, revealing her true

[4]Bisset, M R. 'Story of the Farrer Hospital' in *Fifty Years for Bhiwani Hospital: The Farrer Jubilee.* Baptist Missionary Society publication. (London, 1941). pp. 12-14. pp. 12-13.

feelings in her letters and diaries. However, amalgamated with her derogatory bias was a certain curiosity about the purpose of the various customs surrounding birth and religious ceremonies, and she enquired wherever she could into the significance of the practices she observed. Indeed, Ellen's demeanour appears to have been notable for courtesy, compassion and curiosity, and even her private outbursts of anger at the dhais, hakims and superstitions were only spurred by frustration and exasperation at needless death and suffering.

Her conviction of the superiority of the West in all aspects of culture and science did not cause Ellen to become unduly arrogant over her own skills. She maintained a general attitude of professional detachment overall, but was genuinely grieved by some of the cases she witnessed. Deaths were not uncommon and, although many cases arrived too late for any hope of a cure, Ellen was not blind to the limitations of western medicine or of her own culpability in some cases. Medical resolutions became more realistic as time went on, but for a long period the only genuinely therapeutic drugs were quinine and painkillers. Vaccines and antitoxin emerged over the course of the twentieth century, and Ellen eventually had the use of prophylactics against cholera, typhoid, plague and smallpox, as well as antitoxin for diphtheria. Sulfarsenal for syphilis also appeared in the 1920s, which was extremely effective, and the fashion for serum took off in the same era. For example, Ellen's lymphangitis was due to an unidentified inflammatory infection, which was treated by the use of specially tailored serum.[5] Nevertheless, tuberculosis, many of the viral diseases such as measles and whooping-cough, pneumonia, bronchitis, dysentery, heart disease, cancer and a host of parasitic infections, remained pharmaceutically incurable and could only be treated or

[5] *Obituary of Ellen Margaret Farrer*. 'Memoirs of Ministers and Missionaries'. (Baptist Handbook, 1961). p. 347. The success or otherwise of this treatment was not documented, although it was probably not miraculous given that 'it was feared she would not survive the voyage home'.

resolved by palliative care or attention to nutritional status. Malaria remained a potent hazard, despite quinine, and added heavily to the death toll both directly and indirectly.

Surgery continued to offer the best prospect for swift restoration, and Ellen performed operations for numerous conditions including stones in the bladder, cataracts, fistulas, intestinal obstructions and all manner of growths. Although complete recovery was common, there were inevitable failures and Ellen was quick to recognise where she had been at fault. For example, 'stone case, had to extract it through the vagina. Not good surgery at all and am afraid of what the result will be - the stone weighed 50 grams.'[6] In another case, she attempted to inject a tumour with ferric perchloride 'with disastrous results' and the patient died.[7] She also did a cataract operation which 'went okay, but had to leave a bit of the opaque capsule in', and two operations for recto-vaginal and urethro-vaginal fistulas of which the results were 'doubtful in the extreme'.[8] Surgery became much easier with the acquisition of a second doctor, a trained nurse and an anaesthetist, but even after 1908 she sometimes had to 'tackle a case' herself with the improvised help of two nurses.[9]

Relations with the natives were apparently amicable, and the mission seems to have suffered little from abuse or persecution. In general, all sections of society appear to have welcomed the enterprise and appreciated the work of the hospital, with the municipal board and the wealthy merchants donating money to the service and the local people offering the validation of attendance at the clinic. Even the dhais were seduced to some extent, and were eventually partially assimilated into the hospital

[6]Farrer. Personal Diary. (March 14, 1902).
[7]Farrer. Personal Diary. (May 15, 1902).
[8]Farrer. Personal Diary. (May 31, 1904), (December 3, 1920).
[9]Letter from Ellen to her Sisters. (August 20, 1923).

system. The beginnings of anti-British sentiment and the building of the Lady Hailey hospital were the only incidents which marred Ellen's relations with the community, and even the former caused barely a ripple in the tranquil backwater of Bhiwani. The clinic clientele came from both the town and from the villages surrounding the district, and included notable personages such as the wives of the station master and the civil surgeon. Equally cross-sectional was the representation of caste, with every level from the wealthy brahminis to the lowest untouchable included in the registers. Ellen even came into contact with Indian royalty during her sojourn in Dholpur, witnessing the vaccination of the Rani and her Court against cholera. However, Bhiwani hospital was never graced by the native nobility, and European patients were almost as rare, consisting generally of the mission staff themselves or of other missionaries sent to the district for a restorative holiday.

Ellen's narrative illuminates the reality of medical practice and presents the unvarnished truth about life in India. The mission bungalow with its European trappings must have contrasted starkly with the hot, dusty landscape of the Punjab, and the frail white doctors in their high necked dresses must have stood out amid the crowds of patients attired in saris and billowing shawls. Ellen spoke of the trials and triumphs of her time in Bhiwani, declaring poignantly 'I know what it is to suffer heat, loneliness, malaria, disappointment in native helpers, converts and enquirers of whom much was hoped, and I know the sadness of being unable through prejudice and superstition to help those who we could help and would help'. Yet, the tone of the diaries, letters and writings of Dr Ellen Farrer reflect a far more ebullient and optimistic temperament than those brief sentences would imply. What emerges from the cramped pages of her journal is a passionate and generous humanity, which prompted her to dedicate her life and health to the service of others. Her religious agenda remained firm but muted and despite her dedication to

God and an element of bigoted blindness to the merits of other faiths, she appears to have been fairly free of the less palatable manifestations of Christian evangelicalism. Like all those who committed themselves to a life of isolation and service in an unfamiliar land, Ellen was a remarkably courageous woman whose spirit was both adventurous and conservative. Thus, she maintained unswervingly western standards in every aspect of her unusual life. A pioneer in her professional choice, she remained obstinately conventional in her attitude, philosophy and lifestyle. E J Tilt likened the English in India to exotic hothouse blooms exposed to the harsh climate of an alien land.[10] Fragile and willowy, Ellen weathered the heat and the habitat to put down strong roots in Bhiwani, and her sapling enterprise continued to bear fruit long after she had been restored to the cool temperance of her native soil.

[10]Tilt, E J. *A Handbook of Uterine Therapeutics and of Diseases of Women.* (London, 1868). p. 370.

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Glossary of Indian Terms

brahmin	*highest Hindu caste*
dhai	*hereditary Indian midwife*
hakim	*indigenous practitioner of Unani (Moslem) medicine*
mariamman *mátà* *sitala*	*goddess of smallpox*
purdah	*the practice of female seclusion*
purdah nishin	*inhabitant of the zenana*
sais *syce*	*groom or menial worker*
vaid	*indigenous practitioner of Ayurvedic (Hindu) medicine*
zenana	*the women's quarters*