CHOLERA IN NINETEENTH CENTURY INDIA: PERCEPTIONS AND APPROACHES TO ITS CONTROL

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DHRUB KUMAR SINGH

CENTRE FOR HISTORICAL STUDIES
SCHOOL OF SOCIAL SCIENCES
JAWAHARLAL NEHRU UNIVERSITY
NEW DELHI - 110067
INDIA
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Chairperson
Centre for Historical Studies
Jawaharlal Nehru University
New Delhi-110067, India

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CERTIFICATE

This is to certify that the dissertation entitled **Cholera in Nineteenth Century India: Perceptions and Approaches to its Control** submitted in partial fulfilment for the degree of **Master of Philosophy** of this university has not been previously submitted for any other degree of this university, or any other university and is my original work.

Dhrub Kumar Singh.

Dhrub Kumar Singh

We recommend that this dissertation be placed before the examiners for evaluation

Anindita Mukherjee

CHAIRPERSON
Centre for Historical Studies
School of Social Sciences
Jawaharlal Nehru University
New Delhi-110067

Prof. Majid H. Siddiqi
(CHAIRPERSON)

Prof. Sabyasachi Bhattacharya
(SUPERVISOR)

Centre for Historical Studies
School of Social Sciences
Jawaharlal Nehru University
New Delhi-110067

CHS Office Phone : Ext. 2456 at (011) 6107676 or (011) 6167557
Fax : 91-11-6165886 E-mail : chsjnu@yahoo.com

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INTRODUCTION

Diseases have been generally recognized as social phenomena and epidemics, owing to their mass character, are social phenomena par excellence. Epidemics both in their spatial and temporal expanse unsettle many norms of society. The relationship between state and society, on the one hand, and between various strata of the society, on the other, stands altered due to the recurrent mediation of epidemic visitations.

My attempt here is to write a brief biography of cholera epidemics in the nineteenth century so as to delineate some relatively neglected aspects of social history in the Indian sub-continent. In this venture, I aim at delineating a short history of the evolution of ideas about cholera, its causes, its implications in the lives of the sufferers, ideas about its treatment and the role of the colonial state in the formulation of sanitary reform. The colonial intervention in the wake of recurring cholera epidemic, the public health policies forged to combat it, and its comparison with the policies pursued occasionally in the cholera-stressed metropole in the nineteenth century, may reveal some of the missing strands of colonial-ism which after all was not a monolith entity.

In writing the biography of cholera, Norman Longmate's *King Cholera* remains an inspiring work for me.[1] The biographer as a historian will spatially cover the expanse of the disease and its devastating potential. Temporally, the study will span the entire nineteenth century. The title of this dissertation – "Cholera in nineteenth century India: Perceptions and Approaches to its Control" refers primarily to an understanding and intuitive recognition of 'cholera' the disease and the choleraic or diseased society by the colonial medical men and by the native society during the period. Medical anthropologists have clearly and forcefully shown that health and disease are as much social and cultural phenomena as biological.

This dissertation will then deal with the greatly feared disease in a period comprising almost the entire nineteenth century. Both the biological bases of the disease and its social impact will be considered. In other words, it will examine how cholera was

[1] Norman Longmate , *King Cholera: The Biography of a Disease*, London: Hamish Hamilton, 1966.

perceived medically, legally, and socially and how strategies were forged to tackle it in colonial India. The linkage of cholera to the political and economic conditions of the period has also been alluded to in this work. Since diseases are also culturally framed, the cholera debates help us to understand the nuances of the cultural framework in which the natives were encased. Any discussion on disease causation brings within its ambit religious practices, food habits, climatic conditionings and sartorial peculiarities of the people. Cholera will also serve as the interface between the colonizers' attitude and the attitude of the colonized and the changing contours of this interface as mediated by other discourses pertaining to morality and religion.

If there exists a unique *descrepta* of diseases embodying all the above mentioned characteristics, then I propose to explore the 'uniqueness' of the nativity from the vantage point of cholera epidemics and to test the cultural assumptions framed within the colonial discourse. Besides, the medical aspect of the disease privileges us to understand the categories of 'western science and medicine' employed in building up these frameworks. Were the epistemological categories available with 'western science' able to 'rationally' discern the baffling nature of the disease? The discussion around these themes obviously entails critically re-examining the growth and evolution of science and medicine in general and medical theories pertaining to cholera in particular, both at the metropole and in the colony. How were the cultural practices of the natives seen in the emerging 'rational' medical discourses? The relative value judgements provided by these evolving medical discourses will also give us an opportunity to examine many other lesser known strands within the western medical discourse. After all, western medicine, much like colonialism, was not a monolithic category. Neither was western medicine congruent with allopathy as was generally believed. There were many 'pathies' though all of them were not supported by the state.

Anyone in agreement with the above necessities of the proposed study can still pose a simple question: why cholera? Or why not leprosy or tuberculosis, or for that matter, any other disease? Cholera, unlike leprosy or tuberculosis was not a *'maharog'* or *'rajrog'*, instead it always occurred as a *'mahamari'*. *Mahamaris* have been and should be studied more due to their mass character. Cholera was not a protracted long drawn illness like tuberculosis or leprosy. Rather, it quickly decimated large chunks of population

threatening both the 'embattled minority' i.e. the Europeans in India and the large native population. This clearly threatened imperial interests in more than one way and demanded the action or attention of the colonial state in much more intricate ways than any other disease.

Cholera was a disease with outspoken symptoms in which those afflicted died a silent but quick death, in enough numbers to elicit the response of any state. In modern terminology cholera basically became a public health problem. The study of any recurring public health menace will 'therefore reflect the history of medical science'. What was the status of medical knowledge pertaining to cholera in the 19th century, and how did and how far was the colonial state willing to apply that medical knowledge? What were the colonial doctors' experiences of this recurring malady and how did they theorize their experience? Such queries extend my interest beyond the physicians' actions per se to the ideas that guided their actions.

Further, as a truly representative disease, cholera allows an assessment of the colonial government's responses to some of the civic issues by situating the disease at two contrasting sites, i.e. at the pilgrim site and the cantonments. Such a juxtaposition not only enables a wider insight into the working of the medical theories regarding cholera, and the threat perception of the disease, but its actual occurrence in these crucial sites also serves as a convenient probe for a broader understanding of society, its institutions and its culture. How cholera blazed a fiery trail; how it behaved in cycles, isolated outbreaks, and tidal waves; under what theoretical rubric such depiction of cholera behaviour became possible; how the disease devastated clusters, both disciplined and chaotic[2] – in narrating the above, I will allow the cholera archive to sing its songs of human misery and to glean from it what panacea medical science had for such an agony.

Historiographically, the study of a disease like cholera warrants attention because "until quite recently the historical study of disease has been restricted almost entirely to the medical aspects of the subject"[3] and, as a social historian of medicine, David Arnold has

[2] This refers to the configuration of the two sites.

[3] George Rosen, 'Disease and Social Criticism: A Contribution to a Theory of Medical History' in *Bulletin of the History of Medicine,* Vol. X, June – Dec. 1941, pp. 5-15.

commented, "medicine cannot be regarded as merely a matter of scientific interest. It cannot meaningfully be abstracted from broader character of the colonial order."[4] Largely agreeing with both of these statements and keeping in mind the contributions of scholars like Arnold and Mark Harrison to the subject, I still feel that a fuller treatment in the form of a comprehensive biography of cholera remains warranted.

It is possible to trace the development of medical thought through a series of 'disease specific biographies', and cholera as a truly representative disease of 19th century colonial India serves that purpose well. Biographical studies, because of the sharpness of focus they can achieve, are capable of providing a more elaborate sense of context, of how things were seen at a given time and place – the equivalent of Michael Baxandall's 'period eye'.[5] If you do not subscribe to the triumphalist march of science/medicine and your interest is not limited to distinguished triumphant scientists and doctors, then instead of writing their biographies and the great moments in their medical lives, you choose to write the biography of a disease and the vulnerable weak moments associated with it. Any effort in this direction then becomes an attempt to profile the weak and vulnerable moments of man before a devastating scourge like cholera and the solace he was offered by medicine.

There are many windows through which we may glance and have a glimpse at the prevailing medical thought of an age. Delineating the social history of a recurrent representative disease like cholera may allow us to do so. The private and public response it evoked and the controversies it fostered allows us to know the symptoms of the times in which it occurred and recurred. Cholera will, moreover, not merely serve as a trope but also function as the *leit motif* through which the application of medical knowledge in the colonial context can be gauged. How much medicine was there in the 'civilizing mission' and how far this enterprise was a medical mission will reveal the 'benevolent' face of the Raj.

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[4] David Arnold. *Colonizing the Body: State, Medicine and Epidemic Diseases in Nineteenth century India*. New Delhi: OUP, 1993, p. 8.

[5] Ludmilla Jordanova, 'The Social Construction of Medical Knowledge' in *The Social History of Medicine*, Vol. VIII, No. 2, 1995, pp. 371-372.

This biography entails a historical narrative wherein science and medicine are contextualized in more than one way so that the complex arena of relationship between imperialism, colonialism and developing preventive and therapeutic measures for cholera becomes more understandable to occasion the reassessment of the interaction between colonial officers, medical researchers, native doctors and the population affected by the disease. Clearly, this exercise will bring in many more colonial men into the picture. Their opinions on the epidemics of their time have been used to re-examine the cholera debates in the 19th century, where a 'systematic' and 'proper' constitution of a medical science came in contradiction with the administrative apparatus of public health operationalized by the colonial state. This perhaps had complicated the matter of knowing what caused cholera and the ways and means to tackle it.

As reiterated earlier, this study seeks to explore cholera both as a disease and as a testing ground for medical policies in India. Thus, in the backdrop of medical intervention in a colonial situation, the present biography will aim at examining cholera from the standpoint of both cognitive development as well as the social history of medicine. The research also implies a serious rethinking of contemporary public health strategies that unconsciously carry on the colonial legacy.

Cholera took its toll quite obviously on the lower rungs of the society both on the natives as well as on the last and lowest rungs of British soldiery, especially the Irish soldiers employed in the Indian army. In this sense cholera transcended racial lines. It, in fact, becomes worthwhile to observe that instead of a break we still see the same pattern to date in fatal diarrheas like gastroenteritis which inflict and devastatingly assault the lower rungs of our stratified society. This dissertation provides the scope to examine the relationship and interaction between a devastating communicable disease, class and culture.

Though cholera as an epidemic started as early as 1817, in India, it got scientifically marked only in the 1880s with the isolation of the bacteria *comma bacillus* later known as *vibrio cholerae*. Notwithstanding this discovery, an effective vaccination for cholera was still out of sight for a while. In the absence of any effective treatment, the concentration was on preventive measures rather than the curative aspect. These required an intense relationship with the native population as demanded by the operationalization of

preventive measures. A range of theoretical debates precluded the early implementation of the sanitation program. Nonetheless, the debates which went into the formulation and operationalization of sanitary measures by the colonial state can also be read as a text of colonial administration.

Nature of Sources:

This research has been essentially based upon primary documentation, mostly archival in nature. The focus has been on texts and tracts, both official and native, that informed the debates and discourses on the reproduction, mediation and theorization of knowledge around cholera in particular, and epidemics in general. Apart from the archival sources, several journals of the time have been scanned and scrutinized. Memoirs of distinguished medical men and native reports comprising the newspaper clippings of the time have also been consulted. This study has further made systematic use of various sanitary reports, medical records, reports involving 'quarantine' and of professional discourses in journals and publications.

Chapter Scheme:

Introduction.

The introduction delineates the nature and scope of the study, the nature of sources used and examined, and broadly outlines some of the crucial issues and questions that will be examined in the course of this dissertation. It also brings to the fore the necessity of sketching a 'biography' of cholera and addresses the question as to why there is an indispensable need to do so.

I. Constructing A Social History of Medicine.

This chapter proposes two sub-sections. In the first section, I make a cursory appraisal of the evolution of the discipline of social history of medicine tracing how the historiography of the social history of medicine emerged in European and American universities and how it changed over time. In this process, I will be seeking to highlight

mainly how a *"role reversal"* from ***history in service of medicine*** to the ***history of medicine*** gradually came about. The second section will be focused on constructing a social history of medicine in colonial India through a critical review of some contemporary books and articles.

1. Role Reversals: History in Service of Medicine, Medicine in History to History of Medicine. How delineating history assumed the above mentioned role reversals at the turn of the 19th century, who these historians were, and what were the historiographical tendencies which brought into effect such a change, will be the focus of this section. As all the historiographical tendencies, philosophical schools and intellectual currents from which they derived sustenance cannot be mapped over such a vast span of time and in a matter of a few pages, and as it is not very directly linked to the primary part of my dissertation, I will only try to capture the dominant trends which brought about the role reversals.

2. Constructing a Social History of Medicine in Colonial India: A Critical Review of some Contemporary Works. The second part encompasses a critical historiography of the subject interwoven with a discussion on colonialism, colonial discourses and health as a tool of empire. The attempt is to assess the kind of attention that cholera as a disease has generally received in the contemporary historiography on disease and medicine.

II. An Introduction to Cholera and *Vibrio Cholerae*.

Here, I will introduce the disease as is understood by contemporary medicine without losing the historical perspective. The scientific marking of *comma bacillus* will be followed by the scientific details about this causative organism.

III. Clouds of Cholera and Clouds around Cholera.

The main focus of this section will be the framing of cholera within medical discourse and the social construction of the disease. Crucial debates that emerged with cholera, its communicability and its methods of prevention will also be highlighted. This chapter will touch upon the above mentioned features cursorily and primarily depict the

bafflement caused by this disease in its early phase. An assessment of the endeavour to understand this 'inscrutable malady' will reveal the then existing strengths and weaknesses of western medical science. By 1830s cholera had reached England. Two cholera stressed societies responded in different ways. The rurality of cholera in India and the urbanity of cholera in England informed public health measures in these two countries in different ways. This chapter will explore the theoretical debates and their application specifically in the colony without missing its linkages to the metropole.

IV. Cholera, Cantonment and Pilgrim Site in Colonial India.

This will focus on the cholera debates which were occasioned by its pestilential visitation at these two sites. How the debates around the method of prevention at these two sites differed from each other and what impact they had on the formulation of sanitary policy, will be the subject of enquiry.

The discussion around two main competing theories pertaining to cholera, each with influential supporters, were Anti-contagionism (linked with which was maismatism and localism) and Contagionism, intimately linked to which was the debate around quarantine. This controversy will be discussed on more than one occasion in differing contexts. These differing contexts will also occasion the probe into the semantics of contagion. The mutual incomprehension built into the semantics and usage of the term contagion will be delineated.

V. Therapies, Therapists and Therapeutics.

In the backdrop of the causation controversies documented in the earlier chapters, an effort will be made to filter the medical debates from therapeutic contexts, so as to test the efficacy of the therapeutic cures which different 'pathies' offered purely from the yardstick set by western 'rational' method of assessing therapies and therapeutics. Through this I will try to estimate what other pathies, particularly homoeopathy, within western medicine had to say about cholera and what influence it had on colonial medical men. By 1870s, there were many converts to homoeopathy among colonial medical men. One such man was Mahendra Lal Sarkar. Sarkar wrote a treatise on cholera in the 1870s but any reference to his work is found missing from the history of the disease. The fact that Sarkar

left allopathy and switched to homoeopathy and sought the therapeutics of cholera within that domain problematizes the debates around cholera therapeutics. After all, homoeopathy was not an indigenous system and this fact further breaks the monolithic depiction of western medical science while treating its importation to a colony like India.

Conclusion.

The conclusion will summarize the main findings of the research shaping the questions posed at the outset and consolidating the possible linkages.

CHAPTER I

CONSTRUCTING A SOCIAL HISTORY OF MEDICINE

Role Reversals: History in Service of Medicine, Medicine in History to History of Medicine.

"The medicine of 1900 (is) closer to us almost a century later than it was to the medicine of 1790."[6] In other words, modern medicine – by which Bynum means 'bio-medicine', as it is now called – is more a product of the 19th century western industrial society. It also means that before the advent of the bacteriological era, a marked paradigmatic continuity can be discerned in western medicine. For centuries, both humoralism and maismatism coexisted and had remained as the pervasive frame down to the 19th century.[7] It was from the fag end of the 19th century that a definitive chasm from the earlier frame appeared and this justified medicine's self-portrait as the 'youngest science'. The centuries old dialogue between the Platonic-Pythagorean tradition and Renaissance naturalism vs. the mechanical or natural philosophy began to be resolved in favour of the latter.[8]

The term 'youngest science' largely indicated that medicine derived its youthfulness and vigour from the 'new science' of the Enlightenment based on the

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[6] W. F. Bynum, *Science and the Practice of Medicine in the 19th century*, Cambridge: CUP, 1994, p. xi (Preface).

[7] This does not however mean that rival traditions did not crop up within this pervasive framework. They did, but could not compete and claim ascendancy. The battles lost by rival traditions, say homeopathy, (as late as mid 19th century) were not simply because of the espousal of a different understanding of the body and disease or due to their epistemological inconsistencies vis-à-vis the emerging dominant medicine, but more so due to a host of social and politico-economic factors.

[8] R. S. Westfall, *The Construction of Modern Science: Mechanism and Mechanics*; Cambridge: CUP, 1977, pp. 1-2. Also see chapter 2.
One of its ramifications can be seen in the schism in medical thought in 19th century when Hahnemann re-raised some fundamental questions. Hahnemann's philosophical genealogy in the immediate past can be traced from the Renaissance naturalism tradition. However if one wants to go to the remote past, it can be traced from Hippocrates himself. [An elaborate analysis of this ramification can be found in Phillip A. Nicholls, *Homeopathy and the Medical Profession*, London: Croom Helm, 1988. See especially part one of the book from pp. 3 to 30 in which the schism in medical thought has been dealt.]

Descartesian mechanical perception of the body and its function.[9] By the turn of the 20th century, it had acquired it's own distinctive characteristics and parameters on the basis of which it was called 'bio-medicine'. The conceptualization inherent in 'bio-medicine' distinguished it from many other divergent and plural medical traditions within western medicine. At the core of the scientific paradigm of bio-medicine, 'nature is physical' and biology is the ultimate basis of reality which can be viewed or seen under the microscope, i.e. nature's ultimate structure can be laid threadbare in morbid pathology and a universalisable truth about this can be validly ascertained.[10]

Clearly, the Cartesian mechanistic model remains the underpinning of the above understanding. This idea of a single underlying truth of nature and biology was termed as the monotheism of 'bio-medicine'[11] by the historian Paul Unschuld. "The entailments of monotheism fostered a single-minded approach to illness and care within bio-medicine that has the decided advantages of putting medical ideas to their logical conclusion, uncovering

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[9] The mechanistic philosophy of Descartes brought the split between body and soul. He defined man as a machine whose every part had a specific task to fulfil. Later on, this gave rise to the 'systems' approach towards the body. Rachel Lewinsohn, 'Medical Theories, Science and the Practice of Medicine' in *Social Science and Medicine,* Vol. 46, No. 10, 1998, pp. 1261-1270.

[10] Arthur Kleinman, 'What is Specific to Western Medicine?' in W. F. Bynum and Roy Porter (ed.), *Companion Encyclopedia of the History of Medicine*, Vol. I, London and New York: Routledge, 1991, pp. 15-23.

[11] **Distinctive features of 'Bio-medicine:** 1. 'Bio-medicine' differs from most of the forms of medicine by its extreme insistence on materialism as the grounds of knowledge, and by its discomfort with dialectical modes of thought. In 'bio-medicine single causal change is used to specify pathogenesis in a language of hard structural flaws and mechanisms as the rational for therapeutic efficacy. 2. 'Bio-medicine', through its insistence on the primacy of definite materialistic dichotomies [for eg., between body/mind or spirit, functional/real diseases, and highly valued specific therapeutic effects/discredited non-specific placebo effects], presses the practitioner to construct disease, (disordered biological processes) as its object of study and treatment. There is hardly any place in this narrowly focused therapeutic vision for the patient's experience of suffering. Clearly thus, 'bio-medicine' constructs the objects of therapeutic work without legitimating suffering, and because of the distrust of qualitative interpretations and concomitant emphasis on quantitative data, 'bio-medicine' accords no legitimacy to values. 3. Another peculiarity or specificity of 'bio-medicine' is its 'anti-vitalism'. Bio-medical materialism decries a vital essentialism. A vital force of life that animates bodies/selves is simply not entertained by 'bio-medicine'. 4. The attention of 'bio-medicine' is focused on the body of the individual sick person because of western society's powerful orientation to individual experience (this trait is also shared by homeopathy to a large extent). These specificities of 'bio-medicine' have been extracted from the essay 'What is Specific to Western Medicine?' by Arthur Kleinman, in W. F. Bynum and Roy Porter (ed.), *Companion Encyclopedia of the History of Medicine*, Vol. I, London and New York: Routledge, 1991, pp. 15-23.

layers of reality to establish with precision what is certain and fundamental and establishing criteria against which orthodoxy and orthopraxy can be certified."[12]

Thus, the science that was in the making in the mid 19th century could grow from its infancy to become 'bio-medicine'.[13] The history of medicine written or attempted during the exuberant period of this 'youngest science' was triumphalist and optimistic. This was the time when medicine was "making its intellectual foundations more secure and its practices better grounded by enlarging basic scientific understanding in such fields as physiology, pathology, nosology, bio-chemistry and so forth".[14] By its epistemological affinity to the maturing sciences of physics, chemistry and biology, and by the aid it received from the new emerging technologies, medicine was increasingly becoming confident and echoed the same triumphalism as the basic disciplines of science in the first quarter of the 20th century. "By the middle of the 20th century, scientific medicine had also become increasingly effective; thus it should not be surprising that its history was so often being written in triumphalist terms. Progress and triumph over disease were the implicit messages, and as was also often true for the history of science, the history of medicine was frequently written by doctors for the service of the profession."[15]

It was in this moment of triumph that medicine – in its assertion and, to some extent, demonstrable capability (for example, in surgery, in combating certain epidemics via vaccination and in unraveling the causes of many mysterious diseases) – aroused hope. But in this very moment of triumph medicine also forgot its own past. "To the average physician the history of medicine appeared as the history of errors. Nothing could be learnt from it; to read the ancient writers was a waste of time. Science was worshipped and the

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[12] Arthur Kleinman, 'What is Specific to Western Medicine?' in W. F. Bynum and Roy Porter (ed.), *Companion Encyclopedia of the History of Medicine*, Vol. I, p. 17.

[13] " 'Medicine is a science in the making', suggested Franco Magendi (1783-1855) early in the 19th century. By the late 19th century, many would consider that infant science to be fully grown." Taken from. W. F. Bynum and Roy Porter, 'The Art and Science of Medicine' in Bynum and Porter (ed.), *Companion Encyclopedia of the History of Medicine*, Vol. I, p. 7.

[14] Taken from W. F. Bynum and Roy Porter, 'The Art and Science of Medicine' in W. F. Bynum and Roy Porter (ed.), *Companion Encyclopedia of the History of Medicine*, Vol. I, p. 7.

[15] Gert Briegger, 'The Historiography of Medicine' in Bynum and Porter (ed.), *Companion Encyclopedia of the History of Medicine*, Vol. I, p. 24.

best minds turned to the laboratory with great enthusiasm."[16] Science and medicine took the society for granted. Doctors were not educated to feel humble in the face of death and suffering. They sought to retrieve youthfulness and reverse aging and even thought that death could be managed.

Such triumphalist articulations were largely voiced by doctors sometimes as a self-validatory and semi propagandist exercise. Even serious histories, dominated as they were by a simple positivist, whiggish point of view, were infatuated with their great doctors and their great ideas and it was claimed that these chain of ideas were to lead them from one progressive phase to the other.

Concomitantly, a more modest strand of history writing was also taking a critical and cautious look at medicine. They derived their sense of caution and humanitarian perspective partly from their additional training in some humanitarian discipline and institution, and partly from their urge to make medical policy formulation more informed by the pitfalls which the study of the history of medicine had readily bequethed to them. They wanted to profess for the future, and a critical history of medicine became their handmaiden. Nonetheless, for a long while, the history of medicine continued to remain the forte of physicians and social scientists were debarred entry into the discipline.

But before we delineate the historiography of this modest strand which started in the 1930s and 40s, and further chart out the emerging historiographical trends in the history of medicine, let us have a look at the earlier historiography of medicine in the 19th century.

As alluded to in the opening line of this chapter, in the beginning of the 19th century, ancient medicine was much nearer to us than it was after the 1890s. In fact, it was not construed ***that*** (emphasis added) ancient as to be discarded. It was often readily referred to and in that sense it was still alive. For almost two thousand years, ancient medical writings were consulted as compendiums of information. Hippocrates did not merely appear in the oath taking ceremony. He was read and referred to while attempting a cure, while debating a medical theory, and while refuting a point of view. The study of

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[16] Henry E. Sigerist, *A History of Medicine, Vol. I Primitive and Archaic Medicine*, New York: OUP, 1951, p. 4.

classical medicine was the study of the theory of medicine as delineated by earlier exponents of the art. "History of medicine was primarily medicine."[17] Sigerist informs us that, as late as 1804, Laennec, the inventor of the stethoscope and one of the great pioneers of clinical medicine, in his thesis *Propositions sur la doctrine d' Hippocrate relativement a' la medicine Pratique*, compared the views and methods of Hippocrates with those of his teacher Xavier Bichat, in which he tried to emphasize the superiority of the Hippocratic theory of fevers.[18] Editions and translations of medical writers were primarily for the benefit of medical students. Great books were read for their contents, irrespective of the period to which they belonged. These books, in a sense, were considered timeless. History, therefore, "served to filter out the practical knowledge base of medicine"[19] for successive generations. It served as a vehicle to disseminate and transmit medical knowledge.

As medicine started changing after 1850s, compatibility with the past medical literature became unsettled and uneasy. Doctors of the bacteriological era were too busy in their novelties to take curative clues from the past medical literature. Nevertheless, in the realm of medicine, new discoveries and newer theoretical and etiological understandings emerged, and new bio-bibliographical works extolling the genius of these masters of medical science appeared. The approach towards the past was slowly becoming historical in the sense that past medical texts were not referred to as practical manuals of medicine. They no longer remained the referent for practice.

Amidst the anecdotal, positivist, whiggish, and many a time, bio-bibliographical ways of delineating[20] medical history, another genre of textual historical research with its strict historical-philological method was evolving towards maturity. Doctors who had a pedigree in humanitarian institutions and who cultivated the knowledge of Greek and

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[17] Henry E. Sigerist, *A History of Medicine, Vol. I Primitive and Archaic Medicine,* p. 4.

[18] Ibid., pp. 3-4.

[19] John C. Burnham, 'How the concept of Profession evolved in the work of Historians of Medicine' in The *Bulletin of History of Medicine*, Vol. 70, 1996, pp. 1-24.

[20] This mode of writing had been present in and after the mid 19th century, when modern medicine was creating a foothold by gradually distinguishing itself from the pervasive framework of the earlier era. Interestingly, this mode of writing was also employed in a self-validatory fashion in the 1930s when the 'youngest science' was proclaiming its maturity. It was the time when the coming of chemotherapic endeavour and intervention got the strength of sulpha drugs and in turn strengthened the hands of the erstwhile clinicians considerably.

Roman languages sometimes used their philological expertise to expatiate some of the older medical texts. As respected doctors with high social standing they cultivated the knowledge of oriental languages like Greek and Latin. Their efforts were largely in terms of textual historical research in which philological methods were employed to unravel the locked meaning in the medical theories and texts of the past. For them, medical history was important because they thought that medical history enhanced their modesty as practitioners. It offered them a bridge between science and humanities. If medicine was a science based art, then instinctively these respected doctors sometimes liked to take a stroll on that bridge. It had great educational value which led them to a new humanism and strengthened their idealism. It also warned them against the danger of specialization, as standing on this bridge they could imagine the larger epidemiological picture which was not simply possible within the confines of their clinics.[21]

After the turn of the 20th century, from Sudhoff to Sigerist, we see the gradual evolution from the narrow textual research based on philological methods to viewing the history of medicine in a universal context. The transition was manifest when Sigerist started to shake off the limitations of Sudhoff by viewing medicine as a cultural manifestation of a period, as being 'expressions of its style.' The best example of this is Sigerist's article on Harvey and the Baroque where he showed that Harvey's work on the circulation of blood and on embryology exhibited the same preoccupation with movement as does baroque art from the late 16th century onwards. Just as baroque art was distinguished from the more static art of the Renaissance, so did Harvey stand in contrast to the anatomists of the 16th century who studied the dead to know more about the human body. Sigerist saw them as expressing the same spirit. Harvey for Sigerist, was the progeny of the age and time called the Baroque.[22]

Historians contemporary to Karl Sudhoff, like Max Neuburger, approached medical history in a much more philosophical than philological manner. The two volumes of Neuburger's *History of Medicine* that appeared in 1906 and 1911, respectively, largely

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[21] Owsei Temkin, 'Henry E. Sigerist and Aspects of Medical Historiography' in The *Bulletin of the History of Medicine*, Vol. XXXII, No. 6, Nov-Dec. 1958, p. 489.

[22] Ibid., p. 490-491.

dealt with the ideas behind the activities of men and schools. It was largely an attempt to write an intellectual history of medicine.

Gradually, the urge to understand the context of medical theory and practice, in as much detail as possible, gave way to the incorporation of social, economic and political aspects in the interpretation of the medical past. The idea that medical theories, research and practice were conditioned and circumscribed by their time dawned. It was understood by the medical historians that their isolationist understanding was too narrow and naïve. If 'medicine represents part of civilization' then its study entails stepping out of the narrow confines of the great deeds of great doctors. It became important to reflect on "the inter-relations of general trends and conditions with the work and contributions of great individuals. The great doctor is not made to spring from historical vacuum; nor is the development of history attributed to abstracted forces of which the individual is a mere point of intersection."[23]

Interestingly, until the 1940s, social scientists did not have a very easy entry into the realm of the history of medicine. Sigerist, the founder of the *Bulletin of the History of Medicine*, established the discipline of the history of medicine within American universities, and strove to provide grounding to this discipline when it was marginal to the larger historical enterprise and, consequently, was poorly professionalized. Despite the fact that Sigerist combined in himself linguistic erudition, medical expertise and historical vision, he attempted programmatically to write the history of medicine in various civilizations. But still, he gave precedence mainly to medical men in the writing of the history of medicine. For him, "the historian of medicine is a ***physician*** (emphasis added), trained in the research methods of history, who takes an active part in the lives of his time."[24] The only extra qualification which he attributed to the historian of medicine was that he "never is a narrow specialist who perceives only limited aspects of medicine, but he tries to see medicine as a whole, not only from the point of view of the medical profession, but of society as well. Driven by a contemporary living interest, he sets out to consult and

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[23] Owsei Temkin, 'Henry E. Sigerist and Aspects of Medical Historiography', p. 492.

[24] Henry Sigerist, *A History of Medicine, Vol. I Primitive and Archaic Medicine*, p. 31.

recreate the past of medicine."[25] Clearly, for Sigerist, the medical historian could only be a medical man.

Nevertheless, the stage was set by Sigerist so that the next generation of historians like Irwine Ackernecht, Owsei Temkin and George Rosen made the perspective more cosmopolitan and encompassing. Ackernecht revived the long forgotten study of the geography of diseases in the history of medicine. The geography and the history of diseases were especially important to understand the endemicity and epidemicity of various diseases. Similarly, George Rosen delved in public health. His *History of Public Health* gave a new meaning to the history of medicine because doing something for the 'public' also entailed a class analysis and made the medical historian cognizant of the many non-medical parameters which went into policy formulation on public health. He looked into the history of public health so that lessons could be derived and pitfalls avoided. Likewise, Owsei Temkin, a pupil of Sigerist, differed from his master in according physicians the sole right to delve into the history of medicine. Temkin wanted the discipline to welcome social scientists and to step out of its exclusiveness. For him, this exclusivity was not to be the tradition. Expressing the transition, he disavowed the earlier tradition proclaiming that, "such a tradition is not ours, or is no longer ours."[26]

Around the same time when Sigerist and Sarton were providing cosmopolitanism to the emerging perspective of medicine and science respectively, a different innovation was taking place in France. The *Annales*[27] were floating the agenda of total history. It was both a methodological and political move and was to have very severe ramifications on the 'historian's craft'. The politics of it was to exalt the status of history to an umbrella discipline to which every other discipline was to contribute. That is, history had to act both as a beggar and a queen. The writing of total history, in contrast to 'tunnel histories',

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[25] Henry E. Sigerist, *A History of Medicine, Vol. I Primitive and Archaic Medicine,* pp. 31-32.

[26] Owsei Temkin, 'Henry E. Sigerist and Aspects of Medical Historiography', p. 493.

[27] Ernst Breisach, *Historiography: Ancient, Medieval and Modern,* Chicago and London: The University of Chicago Press, 1983, pp. 370-378.
The *Annales* abhor the epithet or suffix '***School***' [emphasis added]. They like to be understood as an intellectual movement, a sensitivity .I have used the word *Annales* in a generic sense. It represents both their intellectual sensitivity and their strategies to incorporate it in their 'historian's craft' and also their Journal which was renamed from *Annales d' Historie Economique et Sociale,* to *Annales: Economies, Societies, Civilizations.*

entailed exploring 'total' sources, and for this, the confined arrogance, ignorance and misunderstanding of the various disciplines had to be confronted and new fissures had to be created and earlier chasms bridged. In other words, doorways for dialogue between disciplines had to be established. The *Annales* exhorted larger kinship alliances among various cognate disciplines. Perspectives, techniques and even sources had to be borrowed.

What is important for us is the fact that Febvre, as one of the flamboyant progenitors/protagonists of the above spirit, "displayed genuine empathy for 'neglected neighbours or brothers' among whom he counted historians of science".[28] In the 1930s, in France, practitioners of the history of science and medicine came from within the discipline. They were mainly academic scientists, physicians or philosophers who wrote on such subjects in specialized journals of their discipline. This tendency towards specialization along disciplinary lines and the cleavages within various disciplines were acknowledged and sought to be amended by Febvre.[29] In 1927, while reviewing a study of biological thought in the 18th and early 19th centuries, Febvre gave a call for 'a social history of scientific ideas'. He, however, lamented about the incapability of the ordinary historians to tread such a new path. The terrain, for sometime to come, had to be left to specialists with expert knowledge. But to initiate the process Febvre sometimes reviewed books on medical history written by medical doctors.[30]

One of the first medical historical articles which appeared on the *Annales* was a short eight page essay by Dr. Callot. He was also a specialist from the discipline and was a professor on the medical faculty at Strasbourg University. Here, the doctor presented a critical review of the retrospective diagnosis of malaria, its clinical course, epidemiology and the natural history of the vector. Underlying the biological and demographic

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[28] Toby Gelfand, 'The *Annales* and Medical Historiography: *Bilan et Perspectives*' in Roy Porter and Andrew Wear (ed.), *Problems and Methods in the History of Medicine*, London: Croom Helm, 1987, p. 19.

[29] Ibid., pp. 19-20, also see 'Introduction' in Roy Porter and Andrew Wear, (ed.), *Problems and Methods in the History of Medicine*.

[30] Ibid., pp. 19-20, also see 'Introduction' in Roy Porter and Andrew Wear (ed.), *Problems and Methods in the History of Medicine*.

perspective was the suggestion that human factors, such as changes in the peasant economy, were most pertinent to the decline of malaria.[31]

By the 1960s, with the beginning of the Braudelian phase of the *Annales*, a much more encompassing, systematic and sustained enquiry into the bio-medical aspects of history was initiated, when Braudel succeeding Febvre, launched an *enquete* into 'the history of material life and biological patterns of behaviour'. Braudel's *longue duree,* an ambitious *enquete* on material life, extended open invitation to various disciplines to contribute new perspectives to history. Perspectives from 'geography', 'sociology', 'anthropology', 'economics', 'linguistics', 'statistics', 'demography', ***'medicine'***, 'folklore' etc., were elicited and the 60s and 70s saw a plethora of new studies hovering around themes such as, 'biology and history', 'black-death', 'famines and epidemics', 'historical pathology', and 'miracle cures'. These themes were explored for various regions of France from the early to the late middle ages.[32]

We find the *Annales* incorporating vast arrays of perspectives in which biology and various specialized medical sciences like epidemiology, pathology and haematology were subsumed in their analytical framework of the *longue duree.* Keeping their *longue duree* approach intact, perspectives from "these fields were used for the most part methodologically and technically in order to provide more powerful explanations of demographic and especially epidemic patterns".[33] Medicine served as a technical and historical tool informing the 'historian's craft' to comprehend the larger picture painted for the *longue duree.* Very few articles pertaining to biology and medicine in this Braudelian phase "departed from retrospective demography as a way of understanding disease".[34]

Clearly, it was ***medicine in history*** and not the ***history of medicine*** per se, on which the spotlight now fell. "***History of medicine's*** (emphasis added) complex changing development as an enterprise, arising out of theoretical discourse, professional interests,

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[31] Toby Gelfand, 'The *Annales* and Medical Historiography: *Bilan et Perspectives*', p. 20.

[32] Ibid., pp. 15-39.

[33] Ibid., p. 23.

[34] Ibid., p. 23.

institutional resources and practices, were largely left aside."[35] In this *longue duree* assessment of material culture, both the *mentalite* or popular culture and high culture or intellectual history of medicine and science remained neglected.[36]

History of medicine with a critical focus on its episteme i.e., the history of medicine per se, had to await the jolt given by Foucault. Foucault's work started a distinct historiographical development. There were both overlaps and contrasts between his rendering of the past and the *Annales* engagement with history. Foucault's *Historie de la Folie* (1961) and *Naissance de la Clinique* (1963) in particular dealt with the history of medicine with a critical reading of its epistemic evolutions and its role in legitimizing power. The *Annales* had started discussing these works before the end of 1960s. Foucault's delineation made the "professedly atheoretical, data collecting, and at times frankly ***positivistic*** (emphasis added) historians of *Annales* persuasion" reassess their 'historian's craft'.[37]

With his analysis of scientific and medical discourses bereft of quantitative methods, and his allegedly whimsical selection of historical sources[38], Foucault tried to locate "political and social power in what seemed to be marginal institutions like the hospital or the prison".[39] Foucault cast suspicion on these centres for therapeutics and, contrary to conventional analysis, he saw them as methods of social control. Historiographically speaking, he teasingly pulled the positivist strings from below the *Annales* carpet of total history. "He mocked as shallow and self serving all manner of whig or progressive views that purported to show the rise in the west of that humane,

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[35] Toby Gelfand, 'The *Annales* and Medical Historiography: *Bilan et Perspectives*', p. 23.

[36] Few exceptions were there; one was Rene Baehrel who wrote on class hatred during epidemics; Mazaheri who portrayed Paracelsus as an alchemist; and Ehrard who wrote on the formation of medical ideas about plague and contagion in 18th century France. All these exceptions wrote in the Braudelian phase of the 1960s. See Toby Gelfand, pp. 22-23.

[37] Toby Gelfand, 'The *Annales* and Medical Historiography: *Bilan et Perspectives*', p. 23.

[38] Foucault is said to have chided his fellow philosophers "for slavish adherence to a limited canon -- (in contrast), he immersed himself in the little known works of the little known technical authors. (It is generally understood that) his *oeuvre*, among other things, is a tribute to the range of holdings of obscure printed works in the *Bibliotheque Nationale*". Colin Jones and Roy Porter, 'Introduction' in Colin Jones and Roy Porter, (ed.), *Reassessing Foucault: Power, Medicine and the Body*, London and New York: Routledge, 1994, p.3

[39] Toby Gelfand, 'The *Annales* and Medical Historiography: *Bilan et Perspectives*', p. 24.

emancipatory reason blue printed by the Enlightenment and construed by the bourgeois liberalism."[40]

It is not that Foucault did not share any of the *Annales'* concerns. There were many overlapping concerns, but there were, at the same time, strikingly divergent views.[41] The *Annales* always sought to assimilate and engage with Foucauldian perspectives. Foucault had a different intellectual heritage. As a son of a doctor and as the student of Georges Canguilhem, he had inherited a different perspective on the philosophy of life sciences, medicine and phycho-pathology. Canguilhem had developed the idea of scientific change through 'ruptures' and 'epistemological breaks'. He emphasized in his analysis of the biological and medical sciences the non-linearity of scientific development and espoused the idea of temporal differentiality in the history of science. Foucault's fascination for 'ruptures' and 'breaks' as transformative moments bears Canguilhem's influence.[42]

Hence it was not as if the *Annales* School did not influence Foucault. It did.[43] Similarly, the *Annales* also tried to come to terms with the Foucauldian impact. Braudel is on record for having referred to Foucault as the 'only successor' to Lucien Febvre in the

[40] Colin Jones and Roy Porter, 'Introduction' in Colin Jones and Roy Porter, (ed.), *Reassessing Foucault: Power, Medicine and the Body*, p. 1.

[41] There were many overlaps of concern between Foucault and the *Annales*. Many times Foucault acknowledged the intellectual debts he owed to the *Annales*. Foucault shared the *Annales'* disdain for the limitations of traditional history. Similarly, though Foucault was fascinated by the moments when structures break and transform, in ways and paths which are not easily foreseeable, and though he highlighted radical discontinuities and sudden ruptures from where he generally took off, he was also fascinated with the existence and preconditions of long-enduring historical forms and advanced a vision of grand structures of thought and practices, fissured by temporal discontinuities which he thought were tranformative. In his *Madness and Civilization*, he accounts the process as to how the image of the leper was transposed onto the madman in the classical age. Is this not a *longue duree* perspective? It is not incidental that Braudel dubbed it as *Prisons de la Longue Duree*. But contrary to the shared concerns there exist clear-cut contrasts also. Foucault's perspective was anti humanist and anti positivist. The *Annales* were positivist and had a largely humanist perspective.

[42] The idea of 'differential time' in Foucault was imbibed not only from the Annales but also from his teacher Canguilhem – the historian of science. It should be remembered that Foucault's childhood favourite historian was Philippe Aries, who interestingly was a historian of childhood in the middle ages and was therefore a champion of *longue duree*. For Foucault he was one of the historiographical references. Moreover, it should be remembered that Canguilhem was Foucault's doctoral supervisor for the thesis *'Historie de la Folie'*. Though Canguilhem died after Foucault, they remained intellectually engaged in their lifetime. Foucault wrote the introduction to Canguilhem's celebrated book *The Normal and the Pathological*.

[43] Refer to footnote 41.

terrain of cultural history. But, at the same time, he deplored Foucault's lack of historical training.[44]

Moving away from the Braudelian framework, one of the *Annales'* own young member, Jean- Pierre Peter tried for an alternative framework. Under the Foucauldian imprint, Peter tried to move away from the Braudelian framework in which medical history was simply a means for reconstructing material life retrospectively. He tried to pay attention to medical ideas and thought too. He alluded to Foucault's 'geology of medical thought' in *Naissance de la Clinique* and designated his own approach as the 'archeology of disease'. Not able to relinquish the Braudelian pull or rather not able to purge out the positivist strain and largely operating within that frame, Peter ended up doing both – it was a Braudelian frame with a Foucauldian gloss.

Peter's articles embodied in themselves the tension of incorporating both the Braudelian and Foucauldian frameworks and concerns, and the overlaps and contrasts of both the frameworks. Using medicine as a retrospective diagnostic technique for material life, and simultaneously looking at the evolving episteme of medicine per se as discourse and power, was bound to create tensions. Though this essential tension between the Foucauldian and Braudelian frameworks remained unresolved, under Foucault's impact, articles on medical history, other than those devoted to biology, demography and epidemiology, started appearing. Articles pertaining to the history of psychiatry, psycho-history, history of ideas about brain psychology, medical epistemiology, women and medicine and religious healing started appearing in the *Annales* in the 1970s, i.e., "the *Annales* of the 1970s had become ***eclectic*** (emphasis added)".[45]

As a testimony to this eclecticism, in 1977, a special number of *Annales* devoted to the history of medicine included ten articles grouped into three divisions: 'doctors in society', 'doctors and (other) healers', and ***'medical discourse and practice'*** (emphasis added). In a sense, this special number of the *Annales* "represented the official but belated recognition of the ***social history of medicine*** (emphasis added)".[46] This genre which was

[44] Toby Gelfand, 'The *Annales* and Medical Historiography: *Bilan et Perspectives*', p. 24.

[45] Ibid., p. 28.

[46] Ibid., pp. 24-25.

previously the closed fiefdom of 'erudite or curious medical doctors' had become an enterprise worthy of broader historical investigation. It became a special area of and for social history. A good number of the contributions to the 1977 special number implicitly or explicitly dealt with the history of the medical profession, medical institution, practice and patients. The social history of medicine had come of age.

In Europe after 1970, it was understood that if the dense theoretical claims of the so called hard sciences were amenable to social explanations then 'medicine' should be more so. It was claimed that medicine was just not another form of 'science'. It does not just represent the orthodox knowledge systems but is suggestive of varieties of healing practices and a whole range of representations associated with health from within and without the orthodox knowledge systems, be it bio-medicine, Ayurveda or the Chinese system. By emphasizing on medical practice and by implicating the patient's experience in understanding the medical practice, one incorporates more than what medical theories and medical systems offer us. One starts talking about 'medical culture' as the '*mentalite'* of an age, epoch or time frame. This broadening of horizon or the interpretative space does not mean a discounting of 'medical theories and ideas', rather, it implies putting it to more rigorous social trial.

As an intellectual current, 'social constructionism' or the social constructionist perspective delineated the interpretative space for the social history of medicine which the old whiggish or positivist narrative did not permit. In the linear progressivist narrative of succeeding great ideas, a tight fit between *'explanans and explanandum'* existed and the cannons of great ideas and the heroization of great minds could not be questioned. The realist philosophy of science and the dominance of scientists and doctors over the history of their discipline, did not allow a critical look into the mediating processes of the 'linear progressivist and triumphalist' growth of science, technology and medicine. The idea that the progressivist mode could be marginalizing in many ways also was simply not entertained. "By stressing that knowledge is produced in and through social processes, social constructionism encouraged historians to conceptualize the constituent mediating

processes and to come up with imaginative ways of recreating them."[47] This 'imaginative exercise' entailed, on the one hand, the use of a wide range of primary sources, and on the other, the employment of ideas and frameworks such as class, gender, state, imperialism, professionalization, patronage and power which historians, sociologists and economists employed.

In the above exercise, not only the intellectual manoeuvres of scientists and doctors were put to scrutiny but the entire process of 'how natural knowledge is acquired' and the existing mediating factors between the material world and the representation of it, were sought to be examined by historians, sociologists and philosophers. It was in this process of understanding the 'mediating processes' in the progressivist journey of science and medicine, that ***language*** (emphasis added) was identified as an important mediator between nature and science was identified and converted into a tool of analysis. "Indeed analysing the languages – both verbal and visual – of science and medicine has been a major tool in the social constructionist project, which accordingly is similar to and has been influenced by new critical methods in art history and literature."[48]

In their revolt against whiggishness and critiquing such delineation, historians, philosophers, and sociologists attempted to understand the broader context in which 'great' discoveries and inventions were made, justified and accepted. A shift of focus towards mediating processes enabled them to probe the practices of scientists and medical practitioners and their epistemological claims. To construe these efforts as a negative agenda of 'demystification' or a ploy to defame science and medicine would be too simplistic and naïve, since the demystification process did not mean the demeaning of the achievements of science and scientists. Rather, it meant "sympathetically understanding (the) actor's perspectives" as this has "proved more appealing than has the challenge to re-think the notions of 'genius' and 'great thinkers' or the very concept of 'canon' and 'hero.'"[49] Anthropologists who problematized the social and cultural nature of science and

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[47] Ludmilla Jordanova, 'The Social Construction of Medical Knowledge' in *The Social History of Medicine*, Vol. VIII, No. 2, 1995, p. 363.

[48] Ibid., p. 363.

[49] Ibid., p. 364.

medicine also had an impact in breaking the successive stages in progressivist trajectory. Their work on belief systems, witchcraft and magical rites pertaining to healing made it "plausible to treat magic and medicine not as successive stages in progressivist trajectory but as somehow equivalent, if ***different modes of thought*** (emphasis added)".[50]

In conjunction to all these, the Foucauldian notion of 'power' and its imprint on the understanding of social relationship allowed the examination of the relationship between the practitioner and the patient in many newer ways, because "a politicized reaction to scientific and medical power did much to nurture the sense that these were major arenas of conflict and struggle, in which concepts were contested precisely (by virtue of the fact) that they were forged and deployed as social relationships".[51] Political and economic critiques with the intertwined notion of 'power' likewise paved the way for enquiries as to how professional interests shaped the theory and practice of medicine.

Simultaneously, the call for an inter-disciplinarian perspective by the *Annales*, as already discussed, also indirectly strengthened the social constructionists of the post 1970s era. In particular, social constructionism had relevance for those interested both in medical thinking broadly conceived and in conceptualizing the relationship between such thinking and the settings in which it occurred. "In fact together, social constructionism and an attention to medical ideas constitute what might best be called a cultural history of medicine."[52] Thus, space was created for social scientists to contribute their share of criticality to the social history of medicine.

Notwithstanding this emerging space, medicine was still far from being social in the actual sense of the term. In the late 1960s, a mixed group of social scientists of the Wellcome Institute and public health professionals founded the "Society for the Social History of Medicine" in London. The Society emerged out of the group's interest in 'the study of the history of the public health movement' especially at a time "when public health stood at crossroads".[53] In short, it was an attempt to broaden the subject matter of

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[50] Ludmilla Jordanova, 'The Social Construction of Medical Knowledge', p. 364.

[51] Ibid., p. 365.

[52] Ibid., p. 362.

[53] Dorothy Porter, 'The Mission of Social History of Medicine: An Historical View' in *Society for the Social History of Medicine*, Vol. 8, No. 2, 1993, p. 346.

what had until then been called 'social medicine' or 'the social relationship of medicine to society'[54] beyond the constricts of institutional medicine. The founding group "hoped that by amalgamating a number of interests they would facilitate the ***cross-fertilization of ideas*** (emphasis added), drawing strength from an inter-disciplinary membership in which 'the non-medical element might well outweigh the medical."[55]

At this fledgling stage, history remained but a peripheral concern of the Society. In its early perception, the Society perceived medical history primarily as an adjunct to social medicine, public health and epidemiology. It was Thomas McKeown, Professor of Social Medicine at Birmingham who first realized the importance of a 'sociological approach' to the history of medicine and how a lack of historical understanding inhibited the direction of 'medical effort, both in service and research'.[56] Acting upon Mckeown's realization, public health members sought to incorporate history with the view to use it for justifying the Society's existence, "highlight its achievements, perhaps identify mistakes and provide guidance at a time of critical decision –making".[57] Nonetheless, McKeown's perception of the role of history in medicine remained limited to its understanding as a tool of policy formulation and the Society's structures, goals and membership largely mirrored his view.

In the 70s, the Society was to redirect its early alignments towards the history of public health and social medicine. The initial focus of the group on public health history was to give way to wider concerns examining the broader inter-connections between medicine and the social sciences. In particular, the stress fell upon the development of an inter-disciplinary approach with anthropological moorings.

In 1976, the new President of the Society, the historian Charles Webster, emphasized the importance of expanding the "intellectual and professional agenda in the social history of medicine". [58] This agenda was to include the Society's commitment to perform other roles for facilitating research in the social history of medicine such as the

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[54] Dorothy Porter, 'The Mission of Social History of Medicine: An Historical View', p. 346.

[55] Ibid., p. 347.

[56] Ibid., p. 348.

[57] Ibid., p. 348.

[58] Ibid., p. 350.

preservation of medical records. For Webster, it was not just a matter of logistics, not just a matter of coverage given to various themes in social medicine, nor was it about the broader or narrow approaches to the social history of medicine. He raised epistemological and methodological questions about the social historian's craft. For him, the agenda was to relegate "to a subordinate place any linear account of medical progress, in favour of an approach which is primarily concerned with contributing to an understanding of the dynamics of any particular society."[59]

In Webster's view then, a "fundamental readjustment in perspective (was) required for the consistent application of the values of social history"[60] to the study of medicine. As medicine was itself a cultural artifact and healing and curing a social phenomena, healing and curing were always socially conditioned. A new nuanced and rich social history could be written from the vantage point of medicine. Webster thus redirected the trajectory of the social history of medicine in Britain.

Simultaneously, an attempt was being made to revise the Constitution of the Society. The redefined objectives in particular emphasized on advancing "the education of the public in the social history of medicine and as ancillary thereto and in furtherance of the said object to promote research and disseminate the results."[61] With this declared objective, the social history of medicine had formally come of age "as an ***independent scholarly pursuit*** (emphasis added), with its own methodologies and parameters".[62] The increasing need for an independent historical journal focused on the social rather than the scientific aspects of medicine was also felt and adequately voiced by Paul Weildling in the early 1980s.

It was not until the spring of 1988 that the journal christened *Social History of Medicine* was established as "a scholarly organ for the exchange of ideas"[63] and for widening the domain of inquiry in the history of social medicine. Its predecessor, a

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[59] Dorothy Porter, 'The Mission of Social History of Medicine: An Historical View', p. 351.

[60] Ibid., p. 351.

[61] Ibid., p. 352.

[62] Ibid., p. 352.

[63] Ibid., p. 353.

duplicated leaflet that later did almost achieve the status of a full-size journal, called *The Society for the Social History of Medicine Bulletin* had dabbled in a variety of subjects initially ranging from the history of public health and medical professionalization, to a later engagement with the reorientation of old themes such as the early history of medicine and health, the history of ethnicity and medicine, and medicine and colonialism. The impact of the Marxist sociology of science was especially influential in redirecting these themes from the older approaches. Further, subjects like the historical sociology of health and illness, the patient's point of view, the history of nutrition, disability, old age, medicine and religion, and medicine and the media, were innovations that reflected contemporary concerns.[64]

While a substantial amount of the publications of the *Bulletin* was largely committed to the depiction of British history, "the Society's commitment to internationalism was expressed in special conferences and collection of papers on French, German, British Colonial and American subjects".[65] However, broader representations of other Europeans, African and Latin American and Pacific Rim cultures was subsequently taken up only by the later journal. *Social History of Medicine* continued to expand upon the foundations already laid by the *Bulletin*, at the same time, developing other fields within the discipline and increasingly moving to quantitative and demographic history. The journal's focus on the study of non-European societies has, moreover, brought about a broader historiographical expansion of the history of imperialism and colonialism. Alongside, the journal reflects "the influence of post-structuralist representation and discourse theory (which) have stimulated new debates on historical narrative and agency while the study of medicine and power has moved beyond the Foucauldian analysis of the disciplined society to re-examine the pluralistic, competitive social sources of authority."[66]

With the setting up of the Social History of Medicine as an independent academic enterprise after the 1980s, disease and medicine began to figure in the study of colonialism in a distinct way. The history of medicine was employed by the historians of colonialism to

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[64] Dorothy Porter, 'The Mission of Social History of Medicine: An Historical View', p. 355.

[65] Ibid., p. 355.

[66] Ibid., p. 358.

understand its dynamics as well as its social implications. Especially in the South Asian context, the writings of historians like David Arnold and Mark Harrison reflect how medicine and disease have increasingly been used as a probing tool for examining the relationship between the colonizer and the colonized. Such works have shown how medicine became a tool for not only colonizing and disciplining the native body but also for accentuating its corporality as well as asserting imperial and colonial hegemony. The intellectual currents of social constructionism have allowed scholars of South Asian history to question the conventionally held scinetific objectivity of medicine and hence its presumed role in ushering benevolence. The 'liberating role' of medicine has been put to test by looking at the links it had "with the material objectives and ideological imperatives of colonial rule".[67] Among the institutions of social control, medicine is now being identified as an important element. From this point, we will take a historiographical account of some of the works on the social history of medicine pertaining to South Asia examining some of the themes stated above and assessing the scope and variety of works currently being done on medicine in colonial setting.

[67] David Arnold, 'Medicine and Colonialism' in W.F. Bynum and Roy Porter (ed.), *Companion Encyclopedia of the History of Medicine*, Vol. II, London and New York: Routledge, p. 1393.

II

Constructing a Social History of Medicine in Colonial India: A Critical Review of some Contemporary Works.

Why medicine? Do cholera or plague have anything to tell us about social and political processes and the contexts in which they occur? They obviously have little intrinsic meaning in themselves but come to acquire great weight if one approaches them as entry points into a colonial world; if one looks at the variety of ways in which cholera (or any other disease) invaded the lives of the people, the numerous state practices deployed in controlling it, the medical debates centering around it and the diverse public reactions it provoked. Disease thus opens up newer avenues to understand the relationship between the colonized and the colonizers. On the one hand, it has been used to indicate the fragile basis of imperial authority; on the other, it has been seen as a tool that helped in establishing political and cultural hegemony. By providing new tools as an aid for understanding the process of colonialism, medical history has established itself as a legitimate branch of social history.

Partha Chaterjee has posited a binary opposition between the materialist, outside and public domain on the one hand, and the private, spiritual and the domestic on the other. He argues that the natives accepted the hegemony of the colonizers in the former domain, i.e., in the domain of science and technological advances but resisted colonial intervention in the latter, which was to be preserved in its state of pristine purity.[68] Where does one locate medicine? It was undoubtedly a part of the vast body of western scientific knowledge where the Indians had supposedly accepted western superiority and yet it had to do with the most private questions pertaining to the body, bodily rituals and cycles.

Feminist historiography has successfully shown how the colonizing processes as well as the nationalist discourses battled for hegemony over women's bodies. Their bodies become the sites for inscribing the colonial triumph and authority as well as the markers of uncorrupted racial and national purity. David Arnold's work further reinforces the manner

[68] Partha Charterjee, 'The Nation and its Women' (chapter 6) in The Partha Chatterjee Omnibus: Comprising Nationalist Thought and the Colonial World: The Nation and its Fragments: A Possible India. New Delhi: OUP, 1999, pp. 116-157.

in which the corporality of the body is implicated in colonialism. In this sense, it marks a rupture from the works of those like Ashis Nandy who see colonialism as primarily a psychological state.[69] The impress of Foucault is therefore inevitable but by no means is it uncritical. The Foucauldian framework in understanding the nature of colonized societies gets many expressions in Said's *Orientalism* which gives pre-eminence to the totalising and hegemonic nature of Western power knowledge. This has the effect of creating a colonized subject who is entirely monolithic, non-stratified and powerless in the face of colonial power and discipline formations. Arnold, in contrast, firmly holds on to resistance as an important element "in the evolution and articulation of a particular system of medical thought and action".[70] It is this very process of constant negotiation and interplay between Western and Indian medicine that forms the core of his book.

Indian medical systems were not simply supplanted by the western models. Nor was the western medicine practiced in India entirely a replication of medical practice in Britain at that time. The baffling nature of the prevalent diseases in India and the inability of western medicine to cope with them immediately led these practitioners to sometimes incorporate and appropriate indigenous knowledge and *materia medica*. Moreover, the dominance of the environmentalist paradigm – attributing disease to the climate, topography, vegetation, constitutions, and increasingly to the peculiarities of Indian cultural and social practices – implied that medical practice in the sub-continent would be very different from that in Europe. It also meant that this paradigm was an orientalist one and, at the same time, guided by the belief in the superiority of western medical ideas and techniques.

This historiographical enquiry aims at critically examining some of the contemporary writings related to the history of medicine, and medical policies and practice in the Indian sub-continent so as to construct a social history of medicine. In the previous section, an attempt was made to trace how the writing of triumphalist histories in the service of medicine, until the close of the mid 20th century, gradually gave way to a more

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[69] Ashis Nandy, The Intimate Enemy: *Loss and Recovery of Self under Colonialism*, Delhi: OUP, 1983.

[70] David Arnold, *Colonizing the Body: State, Medicine and Epidemic Diseases in Nineteenth century India*, New Delhi: OUP, 1993, p. 7.

critical understanding of medicine's past, to finally make way for the contextualization of the history of medicine within its larger social milieu in the later part of the century. This development not only became the basis for strengthening the agenda of writing social histories of medicine, but also facilitated the entry of social scientists into a discipline that had been dominated by medical practitioners. The placing of the history of medicine within its social settings also became effective in examining the dynamics of colonialism.

The historiography on South Asia and the Indian sub-continent in particular, has benefited from this epistemic shift. While medicine, in terms of policy and practice to combat epidemic diseases, has been examined within the colonial context since the 1980s, newer dimensions of class, race, gender, nationalism and public health have become more prominent in the writings of historians in the last decade of the 20th century. Here, I will be critically reviewing some of the works by South Asian historians and other writers, who have dealt with these aspects in their attempt to delineate a social history of medicine. Although there is no specific sequence being followed in the order of the reviews, the choice of each work is related to the theme that it seeks to examine and address.

David Arnold, *Colonizing the Body: State, Medicine and Epidemic Disease in Nineteenth Century India*, Delhi: OUP, 1993.

Medicine was only one element in the larger universe of the colonial state – from the newly emergent disciplines of anthropology, law, the army and so on, all of which were mobilized in order to legitimize the project of the empire. Thus, medicine cannot be dislocated from the larger political, economic and cultural forces at play. Similarly, the struggle for hegemony between two competing systems of medicine symbolized the unraveling of the ideology of the empire and its battle with the anti-colonialist discourse. It is in this sense too that this piece of work digresses from Foucault who had warned against attaching too much importance to the state and the power that emanates from it instead of the diffused power that exists at all levels (capillary forms of power). The focus of Arnold's book is definitely on the practices of the state – both discursive and material. The trajectory of western medicine was bound up intimately with the imperatives of the colonial state. This could be deciphered in the various practices of the state.

There are three significant points, in particular, that Arnold highlights. Firstly, the medical discourse of the 19th century was heavily loaded with military terminology. 'Conquest', 'attack' and such phrases were liberally used to describe the virulence of the occurring epidemics. Next, the initial preoccupation of western medicine was with the health of the Europeans, the danger that local conditions and disease posed to their 'exotic' constitutions, but more importantly, how these could be overcome with the help of superior western medicine. Thirdly, the army and the jails of colonial India afforded sites of medical colonization. This was for a variety of reasons. The foremost being the health of the army was of crucial, strategic, and political importance to the colonial rule. They also provided arenas where medical investigation and experimentation could be carried out and became models of sanitary discipline and medical practices. In this, they provided a parallel to the other colonial classificatory exercises such as the census. The trends within the army, however, reflected what was happening outside these conclaves – i.e., the prioritizing of Europeans over Indians and the resistance of the local populace to these practices. Concomitantly, it also reflected the policy of colonial non-intervention in local superstitions and religious beliefs and practices which were repugnant to the idea of western medicine. With the memory of the 1857 mutiny still fresh, the colonial state did not want anything to provoke fresh resistance.

Though Arnold has dealt with a triad of diseases (cholera, smallpox and plague), cholera, in particular, is emblematic of the way in which disease acquires political colour and opens up spaces, which call into question notions of colonial authority. The virulence and far reaching devastation caused by cholera, the impact on the colonial economy and military, the unrest that it created among local people, unsettled political debates. It necessitated state intervention and fuelled debates on Hindu religious rites and practices which were seen as antithetical to medical well being and hygiene.

Medicine also provided a space that illustrated how the local and colonial power structures converged and contested. If resistance was the key element in this process, then so were the spread of patronage systems extended by the local leaders. While the colonial state sought to mobilize resources for the founding of hospitals and dispensaries and other facilities in order to limit its own role in this cumbersome task, conversely, the elites responded and benefited with public and political recognition.

Here can also be discerned the collusion of local and colonial patriarchies. Women appear in the medical tracts as either wives of army personnel or as prostitutes, and as carriers of venereal diseases. One of the most formidable challenges to the colonial medical project was the inclusion of women into its fold. Their reluctance to be treated by male doctors complicated the situation further. The demand for a parallel women's corps was met with coldness from the colonial authorities. The reluctance to invest specifically in women's medical needs and the belief that women were fit for nursing and midwifery, but not general medical practice, only reflected the reigning conservative British morals of the time.

Thus Arnold's study of medicine within a colonial context provides us with a foothold for entering into the various mechanisms through which the hegemonic project of the empire was crafted and the multiple ways in which it was contested and resisted. This book offers a critical understanding of the way in which this was achieved. From this perceptive grasp of the imperial project we now move to the next text, which deals with the issues of health, race and the environment in the project of British imperialism.

Mark Harrison, *Climate and Constitutions: Health, Race, Environment and British Imperialism in India 1600-1850*, Delhi: OUP, 1999.

Of late, the history of cultural encounters is being written from different standpoints and hence has become richer. It is no longer a simple narrative of the victors over the vanquished. The imperial expansion is not simply depicted as if it were a swift surge, a victory march, in which the superior sword of the conquerors dazzled the other. No doubt, encounters are more complex affairs and, in this light, the British imperial/civilizing mission was also a disputed one. Many new thematic elements inform the debates around imperialism not necessarily undermining the earlier focus on its economic dimension. The body, health, climate and environment are the new thematic elements, which have been used to further probe the complexities of expansion and consolidation. Harrison's book is an effort in this new direction of enquiry.

The author tries to locate British attitudes and experiences towards the Indian environment within the general trends in European thought from the beginning of the 17th century to the mid nineteenth century. Arguing against the triumphant mode in which

important features of imperial expansion are delineated. Harrison's project is to unmask the fragilities, insecurities and anxieties of the imperialists.

The vagaries of Indian climate on the European body, as it ventured into the hinterland in the wake of expansion and consolidation, are used to unmask the anxiety of the imperialists. This has been done by tapping the rich literature which the European travellers and medical men bequeathed to posterity. As was natural with these sources, so is it natural for Harrison to focus on 'Indian climate' and 'British body' constitution. It is in this sense that the title "Climate and Constitutions" is somewhat misleading and a more appropriate and straightforward title could have been "Indian Climate and British /European Constitutions". In the entire book, the European bodies are in negotiation with the Indian climate. This 'negotiation' was the central theme of the medical discourses being generated by the European medical men who came to India. In scanning and scrutinizing this discourse, Harrison seeks to underline the negotiatory ups and downs, turns and twists to plot the trajectory of climatic determinism and its culmination in the crystallization of 'race' within the medical discourse. It is within this shift of focus from climatic determinism to biological essentialism, that the fragilities of imperial expansion are delineated. This is done by indirectly offering an apology for both, i.e., imperial expansion and racism.

Racism as a trope is negated and its continuous existence informing the entire imperial project is questioned by stating its late arrival within the medical discourse. This delayed arrival in the wake of the failure of acclimatization, as was seen possible within the climatic paradigm, is so construed and narrated by the author that the racial consideration is largely devoid of its tinge and thus much of its negativities are negated. In the author's own words: "Indeed it was as an essay on the 'making' of race that this book was conceived."[71]

The pessimism generated by the failure of acclimatization and the rising influence of biologically rooted "pathological anatomy" marked a shift from the climatic paradigm to a biological essentialism. This gave a racist turn to the understanding of the body. The failure of acclimatization informed the debates of colonization and made it a perennially

[71] Mark Harrison. *Climates and Constitutions: Health, Race, Environment and British Imperialism in India, 1600-1850*. Delhi: OUP, 1999, p. v.

tension-ridden enterprise. This tension remained unresolved and this, according to the author, accentuated the racial turn which, seen from the British standpoint, was responsible for their alienation and thereby made them an "embattled minority" surrounded by the vast native population. Therefore, Harrison's contention is that the colonial state functioned in its managerial capacity. It is by this formulation that Harrison has amplified the tensions of the colonial rule, on the one hand, and its vulnerability, on the other.

Since Harrison is not interested in providing "an account of the demographic consequences of imperialism for the subject people"[72], the racial turn is seen as equally detrimental to the British colonizing endeavour. By dismissing the demographic consequences of imperialism in one sentence, Harrison inflates the vulnerability of the Raj and consequently underplays the notion of biological imperialism so admirably demonstrated by Alfred Crosby.[73] Harrison's purpose is to consciously push the body of the colonized out of sight. The dismissal of the demographic consequences of imperialism makes *Climate and Constitutions* a creative work of European medical discourse analysis. But can such discourse analysis suffice or be a substitute for history itself?

Harrison exhibits considerable audacity in profusely talking about the ideology of improvement which informed the sanitary critique of the English medical men towards the nativity which they encountered. Was there a sanitary movement as early as 1820s and 1830s? Can we characterize the wishful, ideal and noble articulation of the medical men (representative of the so-called "managerial state") as a sanitary movement? It might have occurred in the European medical discourse authored by the medical men who had served in India. But on the ground it was to appear very late.

Were the European medical men at the helm of affairs in India so unmindful of their own epidemiological history? If not, why does Harrison project them in such a forgetful state of mind? The probing of the diseases in India as in England would have had a multi-causal framework but the cruel fact remains that the dominant and official way of expressing the disease flattened out this multi-causality so as to pass the onus on the

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[72] Mark Harrison, *Climates and Constitutions: Health, Race, Environment and British Imperialism in India, 1600-1850*, p. 2.

[73] The notion of 'biological imperialism' is discussed by Alfred Crosby in his well-known work *Ecological Imperialism: The Biological Expansion of Europe, 900-1900*, Cambridge: CUP, 1986.

natives and their nativities, thereby implicating the Indian landscape as diverse disease causing zones.

Thus the truth remains that in spite of the expression of the multi-causality of diseases by 'men at the spots', the administrators, in order to forge an official policy, reduced 'aetiology to a simple equation between dirt and disease'[74] even without producing a colonial version of Edwin Chadwick. The 'managerial colonial state' could not and did not have a Chadwick to lead a massive programme of intervention towards sanitation.

Fortunately for us, in glossing over and hence apologetically and indirectly justifying the 'gradualist' and 'enclavist' nature of sanitary intervention, Harrison is not unmindful of the lack of economic backing to sanitary reforms. Municipal lotteries and some amount of private subscription remained the sole mechanism to sustain the rhetoric of sanitary improvement. Cognition of conservancy without the much needed economic backing was to inevitably yield a rich harvest of death.

Harrison has highlighted the sharing of medical knowledge and therapeautic techniques between the indigenous and British medical men. Sharing was no doubt present but the rate and intensity varied over time. As the colonizing state entrenched itself, it could by its own volition rupture the channels of sharing and could place the universalist claim of western medicine more persuasively and pervasively. For instance, the nature of the Indian and European medical traditions and the dialogue between them, were not the same in the 18th and 19th centuries. When the British were seeking a foothold and groping in the dark, initiation of this dialogue on their part was necessary and it jelled well with their larger orientalist endeavour. However, with time, as political hegemony was established, the resonance of this dialogue in the medical debates became too feeble, and it would have died out but for Harrison whose imperial sensitivity amplified it for us.

On the shared basis of colonial knowledge, Harrison argues, despite the mass of contrary evidence he himself presents, that the term 'orientalism' is unable to encapsulate the complexities of ideas and knowledge generated in the medical discourse in the tropical colonies. Extending his argument about the European indigenous medical knowledge, he problematizes the conceptualization of colonial science in general and colonial medicine in

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[74] Mark Harrison, *Climates and Constitutions: Health, Race, Environment and British Imperialism in India, 1600-1850*, p. 170.

particular. But the medical historians who have used this conceptual tool claim very different assumptions. They have used it for the Victorian age (later half of the 19th century, i.e., the high noon of colonialism) whereas Harrison has consciously projected it back to the 18th century and conveniently proved the unworthiness of this conceptual tool.

Harrison's narrative strategy is mesmerising and elegant. It also has the capacity to gloss over the methodological weaknesses present due to the use of Euro-centric and metropolitan sources, where 'native' opinion has no place. Yet, precisely for this reason, the book deserves a serious reading.

Ralph W. Nicholas, 'The Goddess *Sitala* and Epidemic Smallpox in Bengal', *Journal of Asian Studies*, Vol. XLI, No. 1, 1981.

Nicholas's essay provides an interesting contrast to the above reviewed work, which while using native sources comes up with strikingly similar results as Harrison. 'The Goddess *Sitala* and Epidemic Smallpox in Bengal' can be said to belong to the genre of orientalist literature on India. In this article, Nicholas analyses the relationship of the smallpox disease and the worship of *Sitala*, the Goddess of smallpox. Although Nicholas is best known as a social anthropologist, here he employs the historical methods of enquiry to delineate the "history of smallpox in India and the history of the Hindu goddess of smallpox"[75], and in turn attempts to analyse the relationship between the two.

Nicholas traces the history of smallpox in India to the medical compilers of *Charaka* and *Susruta* in the 4th century A. D., which have acted as fundamental texts for the later medical treatises on the disease. Nicholas's evidence suggests how not only the terms assigned to the disease, but also its notion as a fatal disease underwent changes in the subsequent texts documenting its history. It was in the 7th century that smallpox as a disease came to be considered dangerous enough. However, even then there was no connection made between the disease and the specialist deity, *Sitala*. It was only in a 12th century commentary that *Sitala* finds mention as the goddess responsible for smallpox. By the 16th century, both the medical treatment of the disease and instructions for the worship

[75] Ralph W. Nicholas, 'The Goddess *Sitala* and Epidemic Smallpox in Bengal' in *Journal of Asian Studies*, Vol. XLI, No. 1, 1981, p. 23.

of the goddess are found mentioned together in the same text, as Nicholas's evidence in the *Bhava prakasha* illustrates.

In Bengal, discourses on the goddess *Sitala* have been decisively found only in the 18th century, which, as Nicholas has argued, coincided with the severest epidemic of the disease in the region. This was also a period in which Bengal was going through serious adversity – displacement (of people due to disintegration of the Mughal empire) and drought resulting in malnutrition – which transformed smallpox from a disease to a calamity. Nicholas argues that though the ordinary people perfectly made connections between the low rainfall, low harvest and increase in proportion of rent and revenue in these troubled times, it was religion that provided a fundamental and adequate meaning to their lives. Hence, *Sitala* came to be worshipped as yet another deity. However, Nicholas points out that the worship of *Sitala* was not as eternal and obvious as it appeared. The religious and ritual calendar seems to have accommodated the goddess into its field, and depending on the symbolism of death and inauspiciousness that she signifies, "the eight human day of the dark fortnight of *phalguna* (Febuary – March) was assigned to her worship".[76]

Nicholas also draws our attention to the political economy of the worship of *Sitala*. Spring or the smallpox season is marked by elaborate rituals involving the dramatic enactment of a version of the *Sitala* myth by village performers. The payments for the performers are made out of the contributions made by village families, which in turn determine the moral being of the village. To invoke Durkheim, it may be said that the worship of *Sitala* is the moment of the realization of the collective consciousness of the villagers marked by the temporary suspension of individual differences and animosity.

While Nicholas's account is a vivid description of the relationship between the discourse on smallpox as a disease in its biological and medical manifestation and that of the disease as an affliction by the specialist goddess of smallpox, *Sitala,* his account is particularly silent on how the experience of the disease and the worship of the goddess were already shaped by the practices prior to the generation of historical knowledge about the disease and its connection with the worship of the goddess.

[76] Ralph W. Nicholas, 'The Goddess *Sitala* and Epidemic Smallpox in Bengal', p. 37.

It was pointed out at the outset that Nicholas's essay belongs to the orientalist genre which basically differentiates between East and West as the starting point for elaborate theories, epics, novels social descriptions and political accounts concerning the orient, its peoples, customs and so on. What Nicholas has finally suggested in his essay is a fine distinction between the Orient and the Occident, the former having a penchant for the mystical and the religious and the latter upholding science and reason. Such a discourse not only overlooks the distinctive traits of a particular socio-cultural practice but also legitimizes the intrusion and colonization of the indigenous minds. Nonetheless, Nicholas's essay is another reminder of the way in which knowledge and experiences get homogenized through academic discourses.

Mark Harrison, *Public Health in British India: Anglo-Indian Preventive Medicine 1859-1914*, Cambridge University Press, 1994.

In this book, Harrison sets out to investigate public health measures against the backdrop of the 1857 mutiny. The British were constantly haunted by memories of the mutiny and its shadow loomed large over all the policy decisions made by the British. For the colonial authorities, therefore, the health of the white troops was of utmost concern as the army for them was the ultimate guarantee of British rule.

Nonetheless, the health of the white troops and sanitation in cantonments could not be viewed in isolation. The British had realized that the health and vitality of white troops was intertwined with the health and general cleanliness of the civilian/ native population. Therefore, the colonial authorities were forced to think about taking corrective measures to ensure the good health of the native population. The point to be made here is that British concerns regarding sanitation and the general well being of the civilian populace were motivated if not solely then primarily by their own vested interests, or, to put it more bluntly, British public health concerns were overtly imperial in nature. This is a link that Harrison inherently fails to draw out.

Epidemics like cholera, plague etc., were seen as hindrances not only to the political ordering of the day, but as major threats to the long term project of colonization. As Harrison shows, till the 1820s, British stalwarts and even the viceroys were preoccupied with the idea of conquering the tropics in order to make India conducive for

long term colonization. As a result, the doctors of the Indian Medical Service devoted considerable time to the study of contagious diseases. In this endeavour, till the 1820s and 1830s, the I. M. S. doctors tried to draw upon indigenous practices of medicine and hygiene. These developments must be seen within a broader context. Till the 1820s, the English had a fascination for the 'Oriental Other'! This is a fact that Harrison largely ignores.

Further, Harrison seems to imply that medical knowledge sharing between the Europeans and the natives was on an equal footing. The intensity and rate of medical knowledge sharing was high in the initial imperial endeavour. But, as the civilizational confidence premised upon the progress of industrial revolution manifested itself in the colony, the attitude of inquiry and fascination, by and by, changed into an attitude of contempt accentuated by the racial turn.

The conceptualization of the indigenous medical tradition was part of this larger trend which Harrison mainly glosses over. He primarily looks at it from a very narrow standpoint, i. e. he looks at these changes from the standpoint of military and administrative changes of guard. Though Harrison talks about the influence of the indigenous discourse on the Western tradition of medicine in the colony, a cursory review of his sources reveal that there is almost no reference to any indigenous sources except for one or two.

The time period that the book proposes to scan is from 1859 – 1914. Clearly, the backdrop of the mutiny looms large over the entire narrative. The fear of native backlash cannot be discounted (as also pointed out by Arnold), but the point to be remembered here is that the natives did not resist the sanitary measures per se but the modalities of their implementation. Harrison constantly underplays this aspect. He does mention the fact that natives responded favourably to the use of clean drinking water and sanitary facilities when provided. As regards the implementation of sanitary measures, the author sees much merit in the devolution of power to the local governments, but devolution of power without economic backing can also be construed as a circumventing measure adopted by the British government to absolve itself from the responsibility of constructive or creative governance. The crudity of this otherwise benevolent step is not captured by Harrison.

The title of the book i.e. *Anglo Indian Preventive Medicine* is educative and interesting. A blending has been assumed by Harrison without even substantiating the process through which it occurred. It perhaps conceals what the author does not want to reveal. Thank you Prof. Harrison for being so politically correct!

Anil Kumar, *Medicine and the Raj: British Medical Policy in India 1835 – 1911*, Sage Publications, New Delhi, 1998.

Kumar's book *Medicine and the Raj* borrows the conceptualization of 'colonial science' and extends and employs it in the particular realm of medicine in order to delineate the contours of the development of medicine during the phase of 'Victorian imperialism'. The period spanned is from 1835 to 1911. As there are no benchmark dates as, for instance 1857 or 1885 to demarcate a period for medical history, the author's choice of the above two dates, though arbitrary, is unavoidable.

Spanning the period from Macaulay's education Minutes (1835) to the foundation of the Indian Research Fund (1911), the author basically portrays it as a crucial period of transition in which western medicine became steadily more important in the lives of Indians, in the form of public health measures such as vaccination against smallpox and as a career in which the Indians participated. In doing so the author forcefully/emphatically argues for the efficacy of the conceptualization of 'colonial medicine' to understand the specificities of Victorian imperialism of the 19th century in contrast to the medical intervention of the 18th century. To quote Kumar, "During the 18th century, colonial medicine was wrapped in legendary adventures and medical geography in some scientific sense, but in the Victorian era it graduated into an organized colonial effort".[77]

By juxtaposing 'colonial medicine' against 'tropical medicine' Kumar claims to have shifted historical analysis to a 'receiver's perspective. For him the metropole's conceptualization of 'tropical medicine' was a colonial ploy and it remains a misnomer. It is to be summarily rejected, for despite the fact that "the name given to it was 'tropical

[77] Anil Kumar, *Medicine and the Raj: British Medical Policy in India, 1835-1911*, New Delhi: Sage Publications, 1998, p. 11.

medicine,' there was hardly anything tropical about it apart from the fact that it operated in a tropical climate".[78]

The first two chapters – 'Medical Science and Education in Colonial India' and 'Growth of Hospitals and Pharmacy in India' – trace the evolution of the above two complementary arenas from the early decades of the 19th century, when the first medical schools were started in the presidency towns. In contrast to the general official rhetoric about the apathy and prejudices of Indians towards western medicine, the author establishes the fact of the 'warm response' which the introduction of medical education and hospitals received in India, though he concedes to the heterogeneity of responses and consequently the differential impact of western medicine on various regions and strata.

Remaining alert to the fact of regional variation in the establishment of medical facilities, the author in the first chapter has given a vivid account of the process by which the medical knowledge imparted in these new medical schools and colleges was used to co-opt the traditional medical practitioner, and how by this method the superiority of allopathic medicine was established at least in the urban realm.[79] Not only were the native Hakims and Vaids used as cultural interlocutors,[80] but sometimes even oriental medicine was used as an expediency. This was something unusual in the late 19th century.

Regional variation in the spread of medical facilities was not always accidental but sometimes a region was favoured for its propensity to be useful for the preservation of the Raj. As an example Kumar has shown that the expansion of western medical facilities in Punjab were used to forge and sustain the martial race identity of the Sikhs. Since rural Punjab was to serve as the catchment area for army recruitment, medical facilities were extended to rural Punjab much more readily than anywhere else.

Cognizant of the fact of the differential impact of western medicine on various social strata, Kumar is virulently critical of the decision to concentrate on the education of Brahmins and other high castes. The interlocutors and the collaborators were to come increasingly from this caste, much to the detriment of the untouchables and shudras, whose

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[78] Anil Kumar, *Medicine and the Raj: British Medical Policy in India, 1835-1911*, p. 11.

[79] Ibid., pp. 46-47.

[80] Ibid., p. 45.

upliftment was not the part of the benevolence of the Raj. In a similar vein, he has highlighted the fact of very low Muslim representation in medical education in Bengal. The unwanted attention towards the Brahmins sometimes acted as an impediment for the growth of medical colleges based on western medicine. The slow response of Madras to western medical education was due to the prejudices of the Brahmins who were not forthcoming.

Paradoxically, according to Kumar, as time rolled by, much of the economic sustainability of medical education and hospitals came from native subscription to which the 'renaissance' elite/collaborators contributed in a large measure; it was their enthusiasm which was allowed to function as a tool for supremacy.

Medical education of women in India has been given adequate space and through this chapter the author has re-instated those forgotten women whose activity and outpourings, in a sense, add many strands to the social history of colonial-isms. The IMS as a white male dominated institution was very reluctant to concede its space to even white women; the native women in any case were doubly condemned. If the 'civilizing mission' had the underpinnings of Victorian moral, then its limitations were obvious, as was seen in the reluctance to open up the IMS for women.

The British medical policy is also criticized by Kumar for its failure to incorporate practical pharmacy within the medical curriculum. As he points out, "Pharmacology was not included in the curricula of the medical schools and colleges and the first systematic study of pharmacology could begin only in 1921 when a chair on the subject was established at the Calcutta School of Tropical Medicine".[81] Similarly the author has also highlighted the fact that even towards the end of British rule "pharmaceutical industry remained so insignificantly small and underdeveloped that it failed to find mention in the list of important industries coming to stand on their own during the period 1900-47".[82] However, Kumar fails to elaborate on the reasons behind the nonexistence of the pharmaceutical industry. The drug industry in Britain exerted considerable influence on policy decisions both in the metropole and the colony. He does not fully trace the intricate

[81] Anil Kumar, *Medicine and the Raj: British Medical Policy in India, 1835-1911*, p.115.

[82] Ibid., p. 120.

working of the "drug lobby" in British politics and the specific decisions they made. Nor have its ramifications on the colonial Government's policy decisions been sought to be understood.

The chronicling of the two above mentioned chapters is meticulous but at times the narrative becomes too simplistic on account of the general failure to problematize the sources from where it has been gleaned and generated. Nevertheless, the chapters on medical education and hospitals are the best written among the other three chapters, because of their detailed treatment of the subject. This chapter is significant more so because it, in a way, sets the tone of the chapters that follow.

Kumar has nowhere in the book critiqued 'western medicine' as a system of knowledge. For him its superiority and efficacy in modernizing India is a settled debate. His complaint against the colonial government is that it did not use the potential of medicine to 'modernize' India enough. We can substitute 'colonize' instead of 'modernize', and so from the author's standpoint the problem, if I am allowed to put it in Harrison's words, was not "that India was colonized but that it was not colonized enough". Medicine served the interests of the colonizing power rather than spreading its benefits to the population as a whole.

Moreover, Kumar is so convinced of the superiority and efficacy of western medical education that for him " no practical knowledge look more thoroughly rooted than science and practice of western medicine."[83] Anything in Indian tradition that obstructed the acceptance of western medicine elicits very virulent remarks from the author. Not only is the 'deeprooted religious masochism of Hindus' unbearable for Kumar, but even the Indian languages are charged with impeding the pace of scientific education – and are referred to as 'loathsome vernaculars'. [84]

Kumar is so enthusiastic about the progress of modern medicine and its delivering capacity that, contrary to his claim of providing a 'receiver's perspective', he fails to problematize the element of resistance and reluctance shown by the natives against western medicine.

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[83] Anil Kumar, *Medicine and the Raj: British Medical Policy in India, 1835-1911*, p. 77.

[84] Ibid., p. 172.

Wherever native resistance is portrayed, it is done so in a pejorative sense. The author has underplayed the element of resistance to such an extent that every indication of religious backlash and rebellion due to medical intervention appears to him as concocted. Of course, one should not over emphasize the fact of backlash or rebellion, although there is no doubt that in the British official documents there is an overemphasis on the propensity of the natives to rebel. But to dismiss the 'fear syndrome' of the British officials as purely concocted and false is an oversimplification.

Clearly, the book is written from a straightforward positivist standpoint. Science and 'western medicine' were the vehicles of progress and so the natives were to accept it as much as possible and colonial state's duty was to pave the way for its acceptance and advancement. This astonishingly whiggish mooring of the book makes the narrative style of Kumar old fashioned and stale. Indeed, Macaulay does loom large upon him as it looms large upon many of us even today.

Maneesha Lal, 'The Politics of Gender and Medicine in Colonial India: The Countess of Dufferin's Fund 1885-88' in *Bulletin of the History of Medicine*, No. 68, 1994, pp. 29-66.

In this article, Maneesha Lal probes the philanthropic impetus that lay behind the establishment of the Dufferin Fund and its consequences. In fact, the Dufferin Fund (1885) served many purposes for the colonialists. First, this fund helped in reinforcing and perpetuating the colonial stereotypes regarding Indian society. Secondly, it sought to project the 'welfaristic' aspect of the colonial government where the ideology of "social control,"and "moral and material progress" was employed, thus enhancing the degree of colonial hegemony not only politically but also morally, as this time the gender dimension was also added to it. Third, it facilitated economic exploitation of the colony, in which the colonialists discovered an arena of providing employment to the lady doctors being produced in the west. This was greatly envied by the male physicians. They began to continually emphasize, in the *Indian Medical Gazette*, that nursing was a more suitable profession for women, and that women had started encroaching upon the job opportunities of men. According to a study, not less than 20 % of the physicians in colonial India were women in the late 19th and early 20th centuries. The Dufferin Fund, by creating an avenue of employment for British women physicians in India, reduced the competition in England.

This also helped in developing a mutual confidence and reliance between the colonial masters and subject women through the doctor-patient relationship.

Nevertheless, the colonial arguments put forward to justify the Dufferin Fund, were gradually appropriated by the nationalists. Local dailies like the *Praja Bandhur* (23 March 1888) and Tilak's *Mahratta* et. al., were particularly vocal in their critique. According to them, the Dufferin Fund was another form of the drain of wealth and merely a source to employ English women. Tilak started pressing for the demands on medical education for Indian women, the development of Indian systems of medicine, and their education in the vernaculars. Since poverty, sanitation, nutrition, and education were the main factors of health conditions, the nationalists began pressing these demands on the colonial government as a result of which the Women's Medical Service was established in 1914.

By this time the Indian National Congress had become quite vocal and assertive but Lal has refrained from commenting upon the Congress's view regarding this development. It, therefore, becomes quite difficult to presume that the national movement did use "western medicine" as a "tool of development". Perhaps, the reason might be that this period is beyond the scope of Lal's study (it is confined to 1888), but without discovering the INC's role on the issue of gender and medicine, any conclusion regarding the nationalist discourse on this subject remains incomplete.

Maneesha Lal, 'Purdah as Pathology: Gender and the Circulation of Medical Knowledge in Late Colonial India', March 2000, Unpublished.

The nationalist response to the question of gender and medicine has been taken up by Lal in another research paper entitled 'Purdah as Pathology: Gender and the circulation of Medical Knowledge in Late Colonial India.' The period which she examines is the post World War I phase. It was David Arnold who first argued that, by the 1920s and 1930s, western medicine was appropriated by the Indian middle class. The "tool of empire" in the hands of the colonists was being appropriated as a "tool of development" by the dominant nationalist intelligentsia. Lal has simply extended this argument to the question around purdah.

The 1920s were a period when women had started organizing themselves with the gender question into the discourse of the national movement. Here, a significant thing

happened. The colonial concern for health did not condemn purdah, though they identified it as a cause of morbidity. But the arguments that they put forward were appropriated by the Women's Conference as they pushed forward the demands of political rights, and representation in the Councils and the Parliament. Thus, as Lal puts it, "they reconceptualised their place in a new imagined nation".[85]

The arguments that were put forward to give employment to British ladies were appropriated more vigorously and assertively by the Indian women. Tuberculosis and osteomalacia were said to have been caused by purdah. So the nationalist women's opposition to purdah transcended the health debate and they pressed for educational and political empowerment. Muthulakshmi Reddy was the first such Indian lady who was elected as the Deputy President of the Madras Legislative Council.

Stri Darpan of Allahabad, founded in 1909, became a movemental journal championing the cause against purdah. Lal further substantiates her argument by a novel – *Dhini Dhini Bini Chadariya*. *Stri Darpan* asserted for research and development in the Ayurveda system of medicine, in Yoga et. al., and its editorials averred it even more sharply.

However, not all voices in the nationalist women's cause were in concord. The Begum of Bhopal's response was different which highlights the many layers within the nationalist discourse on the subject. The Begum upheld purdah while simultaneously asserting the feminist agenda in the nationalist discourse. Lal makes references to the Begum's book *Al Hijab* (or why purdah is necessary?) published in 1909. She substantiates it with the Report of the Health Survey and Development Committee. Lal also quotes the Bhore Committee Report and the dissent of three Muslims members of the Committee on the question of purdah. Thus, in Lal's opinion, the medical rhetoric was appropriated by the feminist/nationalist discourse. However, she does not elaborate/quote the original proceedings of the Congress sessions or the sessions of the All India Women Conference.

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[85] Maneesha Lal, 'Purdah as Pathology: Gender and the Circulation of Medical Knowledge in Late Colonial India', March 2000, Unpublished, p. 8.

Md. Shamsad Khan, 'Health and Nationalist Discourse in Colonial India, 1937-47', Centre for Social Medicine and Community Health, SSS, JNU, 1994, Unpublished M. Phil Dissertation.

Khan in his dissertation tries to locate medicine and health as they appeared in the nationalist agenda with its various contestations in the last decade of British rule. The decade was characterized by the diversification of interests by the national leadership. The formation of the National Planning Committee with its various sub-committees, the grant of 'provincial autonomy', and the formation of the first mass elected ministries in different provincial assemblies provided the backdrop and the required political space for the discussion on the future responsibilities which the nationalist leadership was to confront and discharge.

Specifically, Khan probes into and attempts to identify the dominant perception and the response of the nationalist leadership to the different systems of medicine in India. This perception is to be understood by narrowing the focus on the priority debates regarding health and medicine in the U.P. assembly around 'The United Provinces Indian Medicine Bill 1938'. From a critical reading of the provisions of this Bill which was introduced by the then Congress ministry of the U.P. assembly and the debates that followed it, a generalization is sought to be arrived at about the agenda of health and medicine within the nationalist discourse.

As per the critical reading of the contestation, Khan has identified three sets of ideas, namely, ideas of conformity, the idea of defiance, and the quest for an alternative model of medicine, vis-a vis western medicine. The dominant idea for the choice hovered around treating allopathic medicine as the most scientific and efficacious medical tradition. In the priority debate it was understood as the model, nucleus, and core on the lines of which indigenous systems were to be tuned, while simultaneously purging the deadweights of quackery from the indigenous traditions. The point which Khan drives home is that ***Conformity*** to western medicine emerged as the dominant voice within the nationalist discourse and the voice of ***Defiance*** remained weak and apologetic. The quest for an ***Alternative Model*** was simply not attempted, though Gandhi desired it.

Khan's analysis read along with Maneesha Lal's assertion, as put forth in her article "Purdah as Pathology," in more than one sense validates Arnold's argument that

after the 1920s and 30s, western medicine had crossed an important threshold reorienting itself to become a dominant trend in the arenas of state policy, medical research and sanitary practice. Western medical practice was breaking its earlier enclavism and graduating to become "a more Indian oriented system of public health".[86]

As reflected in the U.P. assembly debates, the urban middle class elites increasingly incorporated western medicine into their cultural rhetoric and social practice. To quote Arnold, the "colonial language of medicine and disease had begun to become part of the ideological formulation of a new nationalist order".[87] Within this emerging order (as Maneesha Lal has shown in her essay on purdah), the urban middle class and upper caste Indian women, negotiating through their newly formed associations, "reconceptualized their place in the new imagined nation".[88] Thus, with the forging of the nationalist agenda, the erstwhile "tool of empire" changed hands and became a "tool of development" in the hands of the nationalists, epitomized in the provocative Nehruvian phrase of "tryst with destiny" towards which the nation was heading.

Poonam Bala, 'The State and Indigenous Medicine: Some Explorations on the Interaction between Ayurveda and the Indian State', Centre for Social Medicine and Community Health, SSS, JNU, 1992, Unpublished M. Phil Dissertation.

Poonam Bala's unpublished M. Phil Dissertation, 'The State and Indigenous Medicine: Some Explorations on the Interaction between Ayurveda and the Indian State' spans such a long period that it does not easily fall in the above historiographical framework. Nonetheless, I have included it along with the other accounts in order to highlight some of the emerging concerns in the historiography of the social history of medicine, even if this work falls short of its varied claims.

From the very beginning Bala stresses the importance of posing "the right question" as, in her opinion, that "already gives you half the knowledge". The fundamental question that she addresses in her work is – "where did the degeneration of Ayurveda

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[86] David Arnold. *Colonizing the Body*, p. 241.

[87] Ibid., p. 241.

[88] Maneesha Lal, 'Purdah as Pathology', p. 8.

begin?" She attempts to chase this theme of decadence through an exploration of the tension between state power and medicinal knowledge system. The temporal span of her study is indeed impressive, beginning from the earliest times (she even refers to the Indus Valley!)[89] to the post-colonial experiences – all in less than 120 pages! Generalizations seem unavoidable in such a scopic drive, but it is critical to note in what ways these generalizations have affected the methodology and therefore the findings of the study.

Bala approaches the study of indigenous medicine by clubing its examination in the different stages of state formation together under three broad categories – ancient, medieval and modern. The tripartite schema conceals more than it exposes. More so because she fails to specify the exact nature of these states. The nature of patronage in each case is also not properly identified. Bala further does not take the issue of interpretation into serious consideration. Not all of the ancient texts on Indian medicine were written once and for all. Rather, they were of a cumulative nature, palimpsestical, many versions contested and displaced each other at several points of time. It is difficult to situate a text, or for that matter, a tradition fixedly as a product of one single moment of history. The change in state structure and that in medicinal knowledge system must have been simultaneous, definitely informing each other, but not necessarily in a determining way. Unfortunately, the dynamic is overlooked by the inherent tendency to depict a static snapshot.

That "the entire legal literature starting from the Christian era to the period of Manu indicates a strong contempt for the emphasis laid on empirical knowledge in Ayurveda"[90] does not tally with the importance which Kautilya, for example, alluded to the king's physician. Such a crass and gross generalization distorts and reduces the finer complexities of tension between the ancient state and the prevailing medical system of the time. Bala notes but does not explain the fact that "the Buddhist rulers" provided much support (material and moral) to the physicians.[91] It is plausible to argue that the *"Sreshthis"* – as they formed the real social support base of Buddhism – initiated a new culture of

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[89] Poonam Bala. 'The State and Indigenous Medicine: Some Explorations on the Interaction between Ayurveda and the Indian State'. CSMCH, JNU. Unpublished M. Phil Dissertation. 1992. p. 8.

[90] Ibid., p. 25.

[91] Ibid., pp. 30-32.

materiality which remained concerned with the functioning of body and thus with medicine in particular. So the question persists – which state "supports" medicine and which does not? To explain it one needs to look more deeply at the nature of state power and not only at the religious colour of the state.

Further, a rosy picture of "coexistence"[92] between the Unani and the Ayurvedic systems is presented by Bala. While such a representation is fine and politically correct, what she does not raise is the question whether the emphasis on the syncretic exchange between the two "systems" silences the issue of internal contestation within the systems themselves. In what ways were the Unani practice/Ayurvedic practice unified internally across the continent? Was there no 'High'/ 'Court'/ 'Urban' vs. 'Low'/ 'Popular'/ Rustic' conflict within the system? Most importantly, were the systems conceived as "systems" in contemporary India or was it an effect of colonial identification?

Bala is moreover on the look out for "significant breakthroughs",[93] "famous Ayurvaids" and "famous texts".[94] That is why she has largely overlooked the vast commonsensical and yet arcane area of folk medicine. This is what kept the everyday life of ordinary men going. She admits that "State patronage does not necessarily rejuvenate and silence". But why? She hardly mentions a word on the increasing gap between state-sponsored high medicine (be it Ayurveda or Unani) and local, folk medicine. She presents an undifferentiated essentialized picture of the once indigenous medical tradition, while the state-centric approach glosses over the class nature of the medicinal system. What does she mean when she says that it was "not so much the lack of state support but the lack of clients" that proved to be crucial in the "degeneration".[95] Did the clients vanish? Was the public health in ancient and medieval India so improved? Or did the tradition narrow itself to the service of a chosen elite?

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[92] Poonam Bala, 'The State and Indigenous Medicine: Some Explorations on the Interaction between Ayurveda and the Indian State', p. 38.

[93] Ibid., p. 59.

[94] Ibid., p. 4.

[95] Ibid., p. 59.

Further, Bala pits "the great strides that medicine made in the west" against "stagnation" and "degeneration" of pre-modern India.[96] Arnold has pointed out that the discourse of European medicine was not as confident in the 18th century as its later day protagonists made it to be. Indeed, it is only through colonial assertion that the European medical discourse earned for itself a self contentment. The British, according to Bala, started the plan of rejuvenating the Indian tradition.[97] At the same time, she is unforgivably oblivious of the entire debate around Orientalism. Even in its orientalist phase, the British rulers did not simply dismiss the institutionalisation, essentialisation and textualization of Indian medical knowledge as arbitrary. In fact, the creation of an Indian "system" is much of a British invention.

Her analysis of the post 1830s official attitude to the Indian system does not fit in with her general conclusion that state patronage was not necessary for the flourishing of medical knowledge. Since at this stage one finds that the indigenous medicine system rapidly declined as the state withdrew its support. She talks of the prevalence of "other factors".[98] However, as she does not elaborate what these are, it is not possible to understand why a modern bureaucratic state without the right of citizenship and which had monopolized almost all centres of "high" knowledge should not affect the high tradition's fate.

Bala also talks of "imperial hubris"[99] but simultaneously champions the inbuilt "superiority"[100] of western medicine. She fails to see how they were mutually reinforcing each other. Similarly, she discusses about "cultural nationalism",[101] - but fails to point out whose culture and whose nation? Again the question of class remains untouched even as the narrative of the nation remains coherent. Why then was there so much disdain for folk

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[96] Poonam Bala, 'The State and Indigenous Medicine: Some Explorations on the Interaction between Ayurveda and the Indian State', p. 59.

[97] Ibid., p. 64.

[98] Ibid., p. 87.

[99] Ibid., p. 88.

[100] Ibid., p. 88.

[101] Ibid., pp. 90-91.

medicine in the Bhadralok discourse? Was "revivalism" a revival at all or was it a mere turning over of the categories? These are questions Bala never raises.

Within the above array of eclectic historical probings it is difficult to identify general historiographical tendencies. Nevertheless, three very broad categories can be discerned. The first is the one that is put forth by the apologists of imperialism. They tend to emphasize only the beneficial aspects of western medicine. They portray medicine as a tool at the disposal of a benevolent and paternalistic Raj which, with great imperial sense, was carrying out its civilizing mission. The second questions the benevolence of the Raj. In fact, it sees the coercive potency of the Raj being realized by the instrumentality of the same medical intervention. Here the "tool of empire" is a coercive tool. The third is the one in which it is asserted that the erstwhile "tool of empire" in the hands of colonialists was gradually appropriated as a "tool of development" by the dominant nationalist intelligentsia.

Not all the books and articles reviewed strictly follow one of the above historiological trajectories. They share in varying degrees the above tendencies. Moreover, there are many books, articles and unpublished dissertations which defy the above categorization. For example, Deepak Kumar's article 'Colony Under Microscope: Medical Works of W. M. Haffkine' tries to understand the ways and means adopted by the colonial medical men to forge their identity and autonomy. Torn between two worlds, he portrays Haffekine as simultaneously withstanding the authoritative 'metropolitan push' and 'peripheral pull' of the ground realities at the spot (i. e. in the colony).

While the above delineated accounts have no doubt been somewhat drawn-out, the purpose of this exercise has been mainly to highlight the varieties of concerns in the widening domain of the social history of medicine especially in the context of colonialism. W. K. C. Guthrie, a distinguished British scholar once sarcastically commented, "Some historians even seem to have given up the study of history, and study their fellow historians instead, or historiography as they call it."[102] After this lengthy engagement with the historical undercurrents that led to the precipitation of the social history of medicine

[102] W. K. C. Guthrie, *In the Beginning*, Ithaca, New York: Cornell University Press, 1957, p. 12.

and an examination of some of the trends in its historiography. I take Guthrie's caustic statement in a positive light and now turn to my actual focus in this work – cholera.

CHAPTER II

INTRODUCING CHOLERA AND *VIBRIO CHOLERAE*

"Cholera is an acute diarrheal disease, that can in a matter of hours result in profound, rapidly progressive dehydration and death."[103] This contemporary understanding of cholera is urbane, individualistic and Euro-centric in approach in which public health perspective gets blurred because, in the above definition, cholera gets almost entirely subsumed under the generic name of 'diarrheal diseases'. Moreover, under this rubric, it loses its distinctiveness and specificity as an epidemic disease. In many recent textbooks on Internal medicine, cholera comes under the rubric of 'diarrheal diseases' and the term cholera, according to Harrison's text book on Internal medicine, is occasionally "applied to severely dehydrating secretory diarrheal illness whether due to *vibrio cholerae* or not, and indeed whether infectious in etiology or not".[104] Clearly, the boundary between infectious and non-infectious diarrheal diseases stands dissolved.

Among the infectious diseases, there could be a large number of causative organisms and each has its own importance from the public health perspective. A classic example of this is cholera, 'a devastating diarrheal disease', responsible for seven pandemics and much suffering over the past two centuries.[105] This epidemiological[106]

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[103] K. J. Isselbacher, E. Braunwald, J. D. Wilson, J. B. Martin, A. S. Fauci, D. L. Kasper, (ed.), *Harrison's Principles of Internal Medicine*, Vols I and II, New York, New Delhi: Mc Graw (13th edition), 1994, p. 681.

[104] Ibid., p. 681.

[105] Ibid., p. 681.

[106] "EPIDEMIOLOGY: The study of the distribution and determinants of health-related states and events in populations, and the application of this study to control of health problems.
There have been many definitions of epidemiology. In the past 50 years or so, the definition has broadened from concern with communicable disease epidemics to take in all phenomena related to health in populations.

The *Oxford English Dictionary* (*OED*) gives as a definition: "That branch of medical science which treats of epidemics" and cites Parkin (1873) as a source. However, there was a "London Epidemiological society" in the 1850s. The identity of the scholar who first used the word at that time has been lost. *Epidemiologia* appears in the title of a Spanish history of epidemics. *Epidemiologia espanola*, Madrid, 1802. Epidemic is much older. The word appears in Johnson's *Dictionary* (1755), and *OED* gives a citation dated 1603. The word was, of course, used by Hippocrates." Taken from John M. Last, (ed.) *A Dictionary of Epidemiology*, New York, Oxford, Toronto: OUP, 1983, pp. 32-33.

understanding, which entails in itself the distinction between infectious and non-infectious, is very important regarding the diarrheal diseases. Otherwise no epidemiological logic remains whatsoever in making cholera a notifiable disease.

But, how exactly is one to define cholera within a social context, given the ambivalence in determining its nature? After receiving a case of diarrhea the onus lies upon the doctor to understand and ascertain whether it is infectious or not while probing the causes and, therefore, the definition of cholera should reflect this aspect of the disease. A very general definition of diarrhea without alluding to the infectious and non-infectious aspects can serve as the basis of medical management of an individual clinical case. However, an individual diarrheal case, if infectious in origin and choleraic in nature and symptoms, in due course can trigger off an epidemic depending upon a host of other social, economic and environmental factors. Therefore, any definition of cholera should be such that it incorporates in itself a public health perspective. This is important for doctors in developing countries like India where seventy percent of the population still lives in rural areas. Medical facilities available in the rural hinterland may not have the wherewithal to handle an epidemic situation on its own. And by the time the disease is understood as cholera and the alarm sounded, the damage would have already been done. But, while dealing with diarrheal diseases, if the doctor remains alert about its infectious aspect and its epidemic potential, he will have the time and energy to notify and alert the nodal agencies so that the necessary machinery can be geared up to combat the situation.

However, if the boundaries of infectious and non-infectious are blurred with regards to 'diarrheal diseases' in their definition itself – and hence by extension from the pedagogic enterprise – the fact that a diarrheal disease could be a choleraic case will hardly dawn upon the doctor and its public health importance will not strike his mind. The term 'diarrheal diseases' is a very loose nosological[107] or epidemiological entity. Rather, it merely signifies a group of diseases in which the predominant symptom is diarrhea. But the form and ways in which cholera behaved and could behave in a community, marks the

[107] "NOSOLOGY, NOSOGRAPHY: Classification of ill persons into groups, whatever the criteria for their classification, and agreement as to the boundaries of the groups, is called 'nosology.' The assignment of names to each disease entity in the group results in a nomenclature of disease entities, or nosography. (Faber, K. Nosography in Modern Internal Medicine. New York: Hoeber, 1923)." Taken from John M. Last, (ed.) *A Dictionary of Epidemiology*, p. 71.

importance of considering it as a separate epidemiological entity among the various diarrheal diseases.

Besides being a biological event, cholera, and in that respect any other disease with epidemic[108] potential, is also a social and cultural crisis and therefore the affected community behaves or responds according to its socio-cultural milieu. This in turn demands a close understanding of the society in policy formulation. Instead of being an imposition, any ameliorative strategy should be a socially mediated measure bearing in mind the socio-cultural location of the concerned community or society.

Diseases can be defined either on the basis of their characteristic clinical picture or according to their causative agents. But it may happen that the most frequently observed clinical appearance of a disease may not necessarily prove to be the characteristic of that malady. Also, it may be the case that the same etiological agent may provoke a broad spectrum of clinical manifestations in different individuals. Cholera also sometimes presents itself with varied intensity and form ranging from simple diarrheal to symptomless carrier status. Mild varieties or less severe clinical types of cholera may bear every earmark of an illness caused by pathogens other than *vibrio cholerae.*[109]

While defining cholera the above aspects should be kept in mind so as to make the definition a guide to practice also. Finally, cholera can be defined as "a bacterial infection of man caused by *vibrio cholerae* (of classical or *El. Tor* bio-types) which characteristically causes severe diarrhoea, and death (in those severely affected), from water and electrolyte depletion. Spread is directly from person to person by the faecal oral route, or indirectly by infected food or water. It can spread to any part of the world, and

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[108] "EPIDEMIC: [from the Greek *epi* (upon), *demos* (people)] The occurrence in a community or region of cases of an illness, specific health-related behaviour, or other health-related events clearly in excess of normal expectancy. The community or region, and the time period in which the cases occur, are specified precisely. The number of cases indicating the presence of an epidemic will vary according to the agent, size and type of population exposed, previous experience or lack of exposure to the disease, and time and place of occurrence; epidemicity is thus relative to usual frequency of the disease in the same area, among the specified population, at the same season of the year. A single case of a communicable disease long absent from a population or first invasion by a disease not previously recognized in that area requires immediate reporting and full field investigation; two cases of such a disease associated in time and place may be sufficient evidence to be considered an epidemic.

The word may be used also to describe outbreaks of disease in animal or bird populations." Taken from John M. Last, (ed.) *A Dictionary of Epidemiology*, p. 32.

[109] Oscar Felsenfeld, *The Cholera Problem*, St. Louis, Missouri, USA: Warren H. Green Inc., 1967, p. 3.

may become endemic where standards of environmental sanitation and personal hygiene are low. Man is the only reservoir of infection."[110] According to Kamal, "endemicity[111] is characterized by the presence of an illness or infection in a community in which socio-economic condition are such that they do not offer effective barriers against its spread."[112]

From this task of defining cholera let us take a brief peep into its history. It has almost become habitual to write that all the cholera pandemics of the 19th century originated in the deltaic Bengal. "Each major epidemic spread of cholera since 1817 appears to have originated in the epidemic home of the disease in India, where the infection has been entrenched since long before 1817, probably since immemorial times."[113]

Macnamara's *History of Asiatic Cholera* (1876) has been mischievous in this regard. In his account, epidemics have been construed as synonymous to the 'Asiatic form' and Europe has been absolved deceitfully[114] from the stigma of this malady "even though a malady clinically identical with true cholera, and often designated by this name, has been described by Hippocrates and many subsequent writers, some of whom used other names for the ailment, example, that of Weisse Ruhr."[115] Macnamara and many subsequent commentators emphasized that since the disease never showed a truly epidemic spread and was only sporadic it was something different from the true or *Asiatic cholera*. Even

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[110] Bell, Dion R., *Lecture Notes on Tropical Medicine*, Blackwell Scientific Publications, New Delhi: P. G. Publishing Pvt. Ltd, 1981,1985, pp. 143-44.

[111] "ENDEMIC: The constant presence of a disease or infectious agent within a given geographical area or population group; may also refer to the usual prevalence of a given disease within such area or group." Taken from John M. Last, (ed.) *A Dictionary of Epidemiology*, p. 32.
Sometimes, the term also indicates "a disease of low morbidity that is constantly present in a human community, but clinically recognizable in only a few." Taken from *Dorland's Pocket Medical Dictionary*, New Delhi & Calcutta: Oxford & IBH Publishing Co. Pvt. Ltd.1995 (25th edition), p. 283.

[112] M. A. Kamal, as quoted by Felsenfeld, in Oscar Felsenfeld's *The Cholera Problem*, p. 11

[113] R. Pollitzer, S. Swaroop and W. Burrows, *Cholera*, Geneva: World Health Organization, Palais Des Nations, 1959, p. 52.

[114] S. N. De, *Cholera: Its Pathology and Pathogenesis*, Edinburgh and London: Oliver and Boyd, 1961.

[115] C. Macnamara, *A History of Asiatic Cholera*, London: Macmillan and Co, 1876.

Sydenham's description of cholera during the period 1679-82 in London has been discounted on this basis.

The 'Oriental' framing of the disease was reinforced by alluding to the timeless existence of Ola Bee Bee – the goddess of cholera[116] - and, in many accounts, even mythical delineations and allusions have been further mythisized by establishing role exchanges between Sitala, the goddess of smallpox and Ola Devi or Ola Bee Bee the goddess of cholera.[117] The real classical cholera was designated as *Cholera Asiatica,* or epidemic, malignant, Indian or pestilential cholera, clearly differentiating from *Cholera Nostras, Cholera Morbus, British, English, European, Biliary or Summer Cholera.*[118]

One of the most impartial and medically valid arguments with regards to the nomenclature of cholera was incidentally given by Dr. Mahendra Lal Sarkar in the late 19th century. Sarkar's analysis, unlike that of his European counterparts, instead of being geographically and culturally coloured, was impassioned. He, being well read in the literature existing in his age on the natural history of cholera, made symptoms the yardstick both, as presented in the European medical literature before 1817 and in the Indian Ayurvedic literature, in order to compare with the cholera of the 19th century. Sarkar dismissed '*Visuchika*' as described in Ayurvedic texts as having no major symptomatic resemblance with cholera, but found that Greek cholera (i.e., cholera which prevailed sporadically in Europe before 1817) had some overlap and resemblance with 19th century cholera. His survey of the symptomatology of cholera in Europe before 1817 and the cholera of India in and after 1817, convinced him that "the two diseases ***though allied***, were ***distinct*** (emphasis added)."[119]

In the former, i.e., in Greek cholera, European cholera or cholera morbus, the "rice water stool and vomiting are the exception, coming on very rarely at the end in only the

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[116] R. Pollitzer, S. Swaroop and W. Burrows, *Cholera*, p. 14.

[117] Oscar Felsenfeld, *The Cholera Problem*, pp. 4-5.

[118] Ibid., pp. 4-5.

[119] Mahendra Lal Sarkar, *A Sketch of the Treatment of Cholera*, Calcutta: P. Sircar, Anglo Sanskrit Press, 1904 (2nd edition), p. 40.

gravest cases."[120] Similarly, "suppression of urine is a rare symptom in cholera morbus"[121], which appear only as a very late symptom and only in the gravest cases.

All these symptoms, i.e., rice-water stool and vomiting and suppression of urine are constant symptoms of true cholera or Indian or Asiatic cholera or cholera Indica. As per Sarkar, these symptoms are "present ***as a rule*** (emphasis added) coming on at once or after the first evacuation or two, even in very mildest of cases".[122] Moreover, "in the former the evacuations are passed with pain and effort; in the latter they are passed with greatest ease, and as if with no knowledge of the patient, being simply poured out."[123]

So, Sarkar stresses upon the "sudden and painless discharge of rice-water liquid from the stomach and bowels, devoid of all trace of bile, as the pathognomonic and therefore truly diagnostic of the modern disease".[124] Sarkar, on the basis of these diagnostic symptoms of cholera in the 19th century, argues against the geographical and cultural connotative epithets attached as adjectives to the disease by European medical men of his age. Instead, he appeals for and employs symtomatological and epidemiological characters to describe the disease. The fatality and epidemicity vs. sporadicity is employed by him to distinguish between the disease as it occurred in Europe and India in the 19th century. In this light he avers that 'malignant cholera', 'cholera maligna' or simply cholera or even 'cholera morbus', as used by Sydenham, are appropriate terms for medical descriptions.

Through a parallel reading of two contemporary historians of cholera, Macpherson (1872) and Macnamara (1876)[125], one clearly understands how the disease was attributed to India. The entire history of cholera in Britain, prior to 1817, was consciously erased from public memory by employing a Eurocentric delineation. Jingoism of national glory

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[120] Mahendra Lal Sarkar, *A Sketch of the Treatment of Cholera*, p. 40.

[121] Ibid., p. 41.

[122] Ibid., p. 40.

[123] Ibid., p. 40.

[124] Ibid., pp. 40-41.

[125] C. Macnamara, *A History of Asiatic Cholera*, London: Macmillan and Co. 1876 and John Macpherson, *Annals of Cholera from the Earliest Period to the year 1817*, London: Ranken & Co., Durry House, 1872.

did not permit the dissemination of that diseased history. An imperial race could not afford to have such a past. The venerable history of cholera in her own land before 1817 made her national glory vulnerable! The pretentious mother faced by the death and hardships of her own ailing and labouring children forgot her own shady past and blamed the stepchild for the mischief.[126] As alluded to earlier, in contrast to the European medical men's expatiation, we see a heretic, native medical man of the late 19th century taking a judicious medical standpoint devoid of any cultural prejudice and not succumbing to the cultural rhetoric of the dominant medical literature of the age. Heretics sometimes show more critical faculty than conformists.[127]

Nevertheless, in the entire colonial period, as the British connection grew intimate, cholera (and the cultural prejudice entailed in its conceptualization) figured prominently in each other's destiny. If colonialism was to foster civilization in the savage lands then cholera supposedly emanating from a distant colony was undermining that civilizational endeavour. Cholera reciprocated the benevolence entailed in the colonial/civilizational endeavours by sapping the vital energies – the imperial spirit by its destructive embrace. Perhaps it was a sweet revenge inflicted upon the smiling metropole by the choleraic colony. Cholera blurred the balance sheet of civilization and savagery in more than one way.

During the 1820s, it was hoped "that the actual presence of the disease in Britain will never afford more immediate means of judgement".[128] But cholera belied this hope and the metropole all along the 19th century was haunted by its presence. The pious hope of the metropole "that the imminent of the faculty there (would) be more successful into the

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[126] By juxtaposing the delineation by Macpherson and Macnamara, both contemporary historians of cholera in 19th century, Dr. S. N. De, pathologist and bacteriologist, has demonstrated how one set of facts regarding the existence of cholera in European countries prior to 1817 was silenced so that credence to the Asiatic or more particularly Indian origin of cholera could be propagated and sustained. De allows the silent records to speak and the comparison of both the accounts makes De himself to hypothesize a theory of 'local persistence of sub-clinical infection' which entails the possibility of endogenous recrudescence of cholera in Europe in 1830s. Thus, De refutes the colonial construction of 'Asiatic' or Indian origin of cholera. See for further details S. N. De's *Cholera: Its Pathology and Pathogenesis*, particularly the chapter 'Is Cholera Asiatic?' pp. 27-40.

[127] We will have occasion to talk about Sarkar's heresy in the last chapter of the dissertation.

[128] William Scott, *Report on the Epidemic Cholera as it has appeared in the territories of Fort St. George. Drawn up by the order of the Government under the Superintendence of Medical Board,* Madras Asylum Press, 1824, p. ii.

researches into its nature, cause and cure"[129] than their bretheren in the choleraic colony, was undermined by the disease. "East India Company administrators estimated that over one - and – a quarter million died annually of the disease between 1817 and 1831; some eighteen million in total."[130] As the disease swept through Europe in the years 1830 to 1832, it killed "one citizen in twenty in Russia, one in thirty in Poland and Austria, and many in every European country before 'burning itself out'".[131] Emanating from a town of Bengal, cholera finally established connections with the town of Sunderland in England which claimed the "dubious honour of recording the first case of 'Asiatic Cholera' of the 1831-32 epidemic, when sixty year old William Sproat Senior developed typical symptoms on October 19th 1831"[132] and died on 26th October 1831.[133] Treatment with opium and brandy by two attending surgeons could not save him. The cholera history of the British Isles had begun. William Sproat Senior had left 'cholera' as his legacy, which gripped his grand daughter and her father William Sproat Junior on the next day.[134] "The epidemic had begun and it spread rapidly throughout the U.K., peaking in mid 1832 and eventually burning itself out later in the same year. An estimated 21, 882 people died, and the mode of their demise was horrible."[135]

Cholera deaths dropped out after 1832 but not before instigating riots at Liverpool in May and June in 1832. Fear of the mysterious and horrific disease and frustration caused due to the failure of the medical profession to 'cure' fuelled discontent, which the fear of

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[129] William Scott, *Report on the Epidemic Cholera as it has appeared in the territories of Fort St. George. Drawn up by the order of the Government under the Superintendence of Medical Board,* p. ii.

[130] Mark Harrison, *Public Health in British India: Anglo-Indian Preventive Medicine 1859-1914,* Cambridge: CUP, 1994, p. 100, Also see Arnold, 'Cholera and Colonialism' in *Past and Present*, No. 113, 1986, pp. 121-122.

[131] T. W. Korner, *The Pleasures of Counting*, Cambridge: CUP, 1996, pp. 3-4.

[132] Geoffrey Gill, Sean Burrell, Jody Brown, 'Fear and Frustration - The Liverpool Riot of 1832' in *The Lancet*, Vol. 358, July 21, 2001, p. 233, Also see Norman Longmate, *King Cholera: The Biography of a Disease*, London: Hamish- Hamilton, 1966, pp. 24-25.

[133] Ibid., p. 233, Longmate. *King Cholera: The Biography of a Disease*, pp. 24-28.

[134] Longmate, *King Cholera: The Biography of a Disease*, pp. 24-28.

[135] Geoffrey Gill, Sean Burrell, Jody Brown, 'Fear and Frustration - The Liverpool Riot of 1832', p. 233.

'burking' accentuated, and created riotous situations.[136] From 1838 we see the number of deaths due to cholera dwindling. It again rose in 1842 from three digits to 1, 620 deaths and in 1849, it claimed 53, 293 lives in England.[137]

Before the 1840s, there prevailed a general atmosphere of confusion and medical men often adopted shifting standpoints regarding cholera causality. It was covered under the mist of miasma. The breaking of the third pandemic wave which reached the shores of Britain coincided with the declaration of the newly formed Board of Health that the disease was non-contagious. The simple question that "why cholera should be severe at one time and at one place and relatively milder at others"[138], and how were the occurrence of isolated cases of cholera to be accounted, made its communicability a riddle.

Amidst the 'mist of miasma', a vague notion of 'a pestilential virus' as the proximate cause of the disease existed among some of the contagionists, but they were unable to solve the riddle convincingly. Generally, the disease was attributed to atmospheric disturbances because the vague 'seed' or 'poison' was thought to take this highway to spread far and wide. Therefore, the understanding of metereological phenomena in conjunction with the epidemic's natural history, it was thought, would provide the capacity to predict the outbreak of the disease in certain weather.

It was in the 1850s that the existence of a specific *'materia morbis'* a living, multiplying, distinct species, was thought to cause and excite the cause of cholera. The seat of multiplication was understood to be the intestinal canal. Snow and Budd, interestingly, attempted to understand the causality by focusing on the communicability. For Snow, the ***lateral vision*** (emphasis added) yielded more information about the nature of cholera than the direct vision. They established that the disease was spread by the use of water which had been contaminated by the faeces from cases of cholera.

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[136] Geoffrey Gill, Sean Burrell, Jody Brown, 'Fear and Frustration - The Liverpool Riot of 1832',, pp. 233-237.

[137] William Baly and William W. Gull, *Report on Epidemic Cholera drawn up at the desire of The Cholera Committee of The Royal College of Physicians*, London: John Churchill, 1854, p. 9.

[138] S. N. De, *Cholera: Its Pathology and Pathogenesis*, p. 35.

Let us direct our attention towards the 'lateral vision' of John Snow. As one of the founding fathers of anaesthesia, Snow was an expert on respiration. The primary symptoms of cholera i.e., copious rice-water diarrhea and vomiting convinced him that the disease had nothing to do with the respiratory system, and so, the latter could not be the site of the disease. If the disease was due to '***maisma***' (emphasis added), he reasoned, the lungs would have got affected first. As this was not the case, Snow ***rejected*** (emphasis added) the prevalent telluric origin and explanation of the disease. The symptoms of cholera led him to the conclusion that cholera was primarily a disease of the alimentary canal. Extending his argument further, he proposed that ***if*** [139] (emphasis added) there existed a *'materia morbis'* or a cholera poison then it must be swallowed, in order to reach the alimentary canal, and "the increase of the morbid material, or cholera poison, must take place in the interior of the stomach and bowels".[140] Snow could thus elicit the "attention of the microbe hunters to the intestines and their discharges".[141]

With the above facts in mind, he tried to focus on the ***'communicability'*** (emphasis added) aspect of cholera. Though cholera often killed the poor, it also killed the rich. The disease many a times revealed its constrain 'to confine itself chiefly to the crowded dwellings of the poor' and to reach the many well off localities to get new victims. This many a time puzzling but egalitarian behaviour of cholera led Snow to conclude that there should be some 'opening' for cholera to "extend itself more widely and to reach the well-to- do classes of the community".[142]

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[139] Snow was in fact affirmative about this ***'if'*** (emphasis added). In his understanding, the disease which was communicated from person to person should be caused by 'some material' which passes from the sick to the healthy, and that it should have the property of increasing and multiplying in the systems of the persons it attacks. Snow drew analogy from other communicable diseases like syphilis, smallpox, and vaccinia where there ***existed physical proof*** (emphasis added) of the increase of the morbid material when introduced within the human system. Snow extended this analogy to cholera. See B. W. Richardson, *Snow on Cholera being a reprint of Two Papers by John Snow, together with a Biographical Memoir*, Introduction by Wade Hampton Frost, New York, London: The Commonwealth Fund, 1936, pp. 14-15.

[140] Ibid., p.15.

[141] S. N. De, *Cholera: Its Pathology and Pathogenesis*, Edinburgh and London: Oliver and Boyd, 1961, p. 9.

[142] B. W. Richardson, *Snow on Cholera being a reprint of Two Papers by John Snow, together with a Biographical Memoir*, p. 22.

To account for this 'opening', Snow alluded to the possibility of "the mixture of cholera evacuations with the water used for drinking and culinary purposes, either by permeating the ground, and getting into wells, or by running along channels and sewers into rivers from which entire towns are sometimes supplied with water."[143]

During the epidemic outbreak of the disease in London in 1854, Snow set out to test his grand hypothesis. With untiring zeal he conducted his epidemiological investigation going door to door in chosen districts in and around London where cholera had taken its toll. He gathered data about the water supplies to these localities. He compared it with the data of cholera free localities, ascertained from where the cholera free localities drew their water supplies, and also accounted the overlap of the water supply to these different localities. In his statistical analysis he calculated and tabulated deaths per thousand in various districts and also accounted for the overlapping supplies to these districts by various water companies. By following the comparison and contrast method, Snow " sought statistical evidence for or against his particular theory of cholera".[144]

Needless to say, Snow not only faced the cold behaviour of the medical establishment but also had to surmount many practical impediments. Meanwhile, the outbreak of cholera north of the Thames in Soho, 'within roughly 250 yards of the spot where Cambridge Street meets Broad Street and where mortality rate was ***exceptionally*** (emphasis added) high, gave Snow a chance to conduct a much more focused epidemiological investigation. Within the limited area in 'Soho' around Broad Street, 500 fatal attacks of cholera occurred. This even surpassed and rekindled the horrific memoirs of the plague years of bygone centuries, as a good number of those attacked by cholera died within hours.[145] Snow in his investigation naturally "fixed his attention on the Broad Street pump as the source and centre of the calamity".[146]

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[143] B. W. Richardson, *Snow on Cholera being a reprint of Two Papers by John Snow, together with a Biographical Memoir*, pp. 22-23.

[144] T. W. Korner, *The Pleasures of Counting*, p. 5.

[145] Ibid., pp. 8-9. Also see B. W. Richardson, *Snow on Cholera being a reprint of Two Papers by John Snow, together with a Biographical Memoir*, pp. 45-60.

[146] Ibid., p. 11. Also see B. W. Richardson, *Snow on Cholera being a reprint of Two Papers by John Snow, together with a Biographical Memoir*, pp. 45-60.

Dr. Snow as the stranger – investigator asked the Parish authorities to remove the pump handle. Amidst the horror of such a death dance, the strange prescription of this doctor was obeyed. As the legend goes, the 'pump handle was removed and the epidemic halted'. This episode shifted the attention towards this strange doctor, who now stood convinced about his water-borne theory of cholera causality and communicability.

Snow soon busied himself in drawing a new type of 'cholera map' of the Broad Street outbreak, which, in a very unique way, not only reduced all human suffering and misery of this small area in 'little black bars on a sheet of paper', but also conveyed to the world a very comprehensive understanding of an otherwise 'inscrutable malady'.

Snow's comprehension of the problem and his analytical rigour in attempting to solve it was remarkable. From the symptoms of the disease Snow moved to the site of the disease, keeping an eye on it and the communicability factor by drawing analogies from other communicable diseases, he speculated analytically both about the living nature of the *'materia morbis'* and water being its chief carrier (in a literal sense) through the faecal-oral route. Snow's contribution gave both aetiological and epidemiological investigation pertaining to cholera a firmer foundation and fillip.

It is generally understood that Snow "saved the Germ theory of cholera and catalyzed it further"[147] (which) "culminated in the discovery of *comma bacillus* by Robert Koch in 1884".[148] In his own days, Snow's theory was not accepted and he died a premature death in 1858. Much before Snow wrote his pamphlet on cholera in 1854, in an evidence to a Parliamentary enquiry in 1848 – 49, he had drawn attention towards the dangers of attaching water closets to antiquated sewers that allowed leakage into surrounding water courses, which became the cause of epidemics. After his Soho investigation, he established the fact that water companies which drew water from the polluted section of the Thames caused more cholera mortality among its users, than water companies which drew water from the unpolluted section of the river.[149]

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[147] S. N. De, *Cholera: Its Pathology and Pathogenesis*, p. 9.

[148] Ibid., p. 9.

[149] Stephen Halliday, 'Death and Maisma in Victorian London: An Obstinate Belief' in *The British Medical Journal*, Vol. 323, 22nd to 29th December 2001, pp. 1469-1471.

However, Snow's findings in the above regard were not heeded to by the Parliamentary Committee appointed to enquire into the 1854 cholera epidemic. The Committee clung to the prevailing 'miasmatic theory'.[150] Gradually, Snow's theory found converts from among his opponents. A very prominent member of the 1854 Committee of enquiry, William Farr, statistician to the Registrar-General, talked of the earlier Committee's error of not heeding to Snow's water-borne theory. Himself convinced of Snow's theory, while investigating London's final cholera epidemic of 1866,[151] Farr was "thus prepared to scrutinize the water supply ...and, despite denials by water company officials, (he) traced the source of epidemics to open ponds, tainted by sewage from a nearby river which were being used as emergency reserves. This practice was stopped and the epidemic ceased."[152] Farr was revising his earlier anti-contagionists' stance regarding cholera communicability and he mocked at his own earlier held conviction as, in his opinion, "only a very robust scientific witness would have dared to drink a glass of water of the (river) Lea".[153] Sir John Simon, who in Snow's lifetime had remained cold and aloof from his water-borne theory, described this theory in the 1870s as "the most important truth yet acquired by medical science for the prevention of epidemics of cholera."[154]

In contrast to the metropole where Farr got converted to Snow's theory, in the colony, his own disciple Brayden and Brayden's successor, J. M. Cuningham, not only remained stubbornly stuck to the 'miasmatic theory' and their anti-contagionist viewpoint, but even defended them as far as possible. My subsequent chapters will argue out the colonial imperatives due to which Snow's water-borne theory found a very late echo in the colony.

In the metrople the conversion from the air-borne theory to the water-borne theory had started from the 1860s. The "weakness of the contagionists arose from their restricted

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[150] T. W. Korner, *The Pleasures of Counting*, pp. 13-14.

[151] Stephen Halliday, 'Death and Maisma in Victorian London: An Obstinate Belief', pp. 1469-1471.

[152] T. W. Korner, *The Pleasures of Counting*, pp. 13-14.

[153] Stephen Halliday, 'Death and Maisma in Victorian London: An Obstinate Belief', pp. 1469-1471.

[154] Wade Hampton Frost, 'Introduction' in B. W. Richardson, *Snow on Cholera being a reprint of Two Papers by John Snow, together with a Biographical Memoir*, p. xix.

epidemiological observations"[155] and their inability to "explain the occurrence of isolated cases where there was no proof of contact".[156] Moreover, the fundamental pathology and site of the disease process in cholera and their possible linkages to epidemiological facts had not been very comprehensibly established before Snow. As alluded to earlier, Snow established the relationship between the aetiological and epidemiological aspects of the disease. His epidemiological structure rested on a clear and sound understanding of the pathological process.[157]

The shift from 'miasmatic theory' to water-borne theory made the search and identification of that living *'material morbis'* very important. And therefore, it is important now to stop our to and fro journey from the choleraic colony to the cholera stressed metropole to have a look at the 'colony under the microscope'. As already mentioned, the shift from 'maismatism' to the water-borne theory was very late in the colony. Even Koch's theory of 1884 was not given its due immediately. Its acceptance had to await the retirement of J. M. Cuningham, who ironically, in his capacity as the Sanitary Commissioner of India, acted as the host for the German Cholera Commission led by Koch, just before the latter let the world know about the *vibrio cholerae* or the *comma bacillus,* as it was then called.

Colony Under the Microscope:

Till the mid 1880s, 'maismatism' along with an idea of *'materia morbis'* coexisted, and was held by the colonial medical establishment as a validation of its anti-contagionist's stance. Although there were a few individual rebels, they, instead of being heeded to, were castigated for holding a contrary opinion. The anti-contagionists thought that they could predict the outbreak of the disease in certain weather. The ecstasy of the attacking vibrios had an intimate link, they thought, with the disturbed state of the atmosphere. "When the atmosphere is gloomy and clouds gather over head obstructing the sun's rays, but no

[155] S. N. De, *Cholera: Its Pathology and Pathogenesis*, p. 9.

[156] Ibid., p. 9.

[157] Ibid., p. 9.

shower comes within a day or two; we are sure that ecstasy of joy of the vibrio for devastation comes out. It appears to us that the period of their division comes then."[158]

Koch, acting on the blueprint of Snow's water-borne theory, tried to establish the identity of the *'materia morbis'*. The isolation and bacteriological study of this *'materia morbis'* was only one element of his encompassing agenda. He strove like Snow to undertake a combined pathological, biological and epidemiological program of enquiry. Koch's "announcement of the isolation of the *comma bacillus* in February 1884, was not the first description of a vibrio."[159] Many like Filippo Pacini in 1854 had characterized the cholera "vibrion" and had also described the cholera symptoms in detail.

The novelty of Koch lay in the fact that he established the causal role of the vibrio by analytically moving from the 'sufficient' causality argument to the 'necessity' causality argument. In his investigations in Egypt and India he found the microbe in the evacuations or in the small intestines of every cholera victim examined. As the *bacillus* could not be found in non cholera deaths, i.e., in deaths caused by non choleraic diarrhea or intestinal disturbances, Koch first of all invoked the 'presence – absence' argument. As all efforts to induce cholera in animals failed, he had to move from his 'presence – absence' argument in a different analytical direction. This became all the more necessary because the stress only on the 'presence' or the 'sufficiency' argument pertaining to the *bacillus* rendered it a weak and partial argument. "The *bacillus* or microbe could, in fact, be but the concomitant to other factors present, any one (or several) of which might well be the true cause of the disease."[160] Therefore, to make the argument sturdier, one had to move from the 'sufficiency' argument to the 'necessity' argument. This analytical step from 'sufficiency' to 'necessity' argument was accomplished by Koch by focusing attention on the non cholera sick and the healthy, where the presence of the *bacillus* was ***necessarily*** (emphasis added) absent.

It was on the strength of the above lateral vision Koch could state that, "the *vibrio cholerae* was the "necessary" cause of the disease because, in its absence or with other

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[158] B. Dutt, *Why Cholera Requires Research*, Calcutta, 1932 (first edition) p. 35.

[159] William Coleman, 'Koch's *Comma Bacillus*: The First Year' in *Bulletin of the History of Medicine*, Vol. 61, No. 3, 1987.

[160] Ibid., p. 327.

factors remaining the same (in so far as this is ever possible in biology), the disease, too, remained absent."[161] Thus by underscoring the 'presence – absence' argument, Koch could provide a persuasive causal statement pertaining to the role of the vibrio in inducing cholera. I turn now to provide a brief family history of that 'villianous' vibrio as given by contemporary medical understanding.

Vibrio Cholerae: The Causative Organism of Cholera.

As alluded to earlier, though *vibrio cholerae* was observed and scientifically marked, its causal role with finality was established by Koch in 1884. It was formerly called vibrio comma, comma bacillus, spirillum cholerae Asiatica.

A member of the genus vibrio, it causes a number of important infectious syndromes. Ten human pathogens are currently recognized within the genus vibrio. Included are species associated primarily with gastro-intestinal illness and species associated primarily with soft tissue infection.[162] There are between 35 and 50 recognized species of vibrios that have nothing to do with cholera or diarrhea.[163]

The anti-genic character of vibrio cholerae was demonstrated by Gardener and Venkatraman (1935). The species vibrio cholerae comprises a host of organisms classified on the basis of their somatic 'O' antigen. Those which agglutinate in 'O-group-I' antisera are called 'vibrio cholerae O-I'. These exist in two bio-types, 'Classical' and *'El Tor'*, that are distinguished on the basis of a number of characteristics. Each bio-type is further sub divided into two sero types, termed Inaba and Ogawa.[164] The existence of these serological types was established by Kabeehima.[165]

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[161] William Coleman, 'Koch's *Comma Bacillus*: The First Year' in *Bulletin of the History of Medicine*, p. 327.

[162] K. J. Isselbacher, E. Braunwald, J. D. Wilson, J. B. Martin, A. S. Fauci, D. L. Kasper, (ed.), *Harrison's Principles of Internal Medicine*. Vols I and II, New York, New Delhi: Mc Graw (13th edition), 1994, p. 683.

[163] Oscar Felsenfeld, *The Cholera Problem*, St. Louis, Missouri, USA: Warren H. Green Inc., 1967, p. 29.

[164] K. J. Isselbacher, E. Braunwald, J. D. Wilson, J. B. Martin, A. S. Fauci, D. L. Kasper, (ed.), *Harrison's Principles of Internal Medicine*, p. 681.

[165] R. Pollitzer, S. Swaroop and W. Burrows, *Cholera*, Geneva: World Health Organization, Palais Des Nations, 1959, p. 222.

With the establishment of the 'Germ theory' and the advancement of bacteriological science, it is now held that a specific disease is caused by one species of bacteria however mild, severe, atypical the clinical picture and however diverse its epidemiological factors. So any attempt to define cholera only on clinical and epidemiological basis without regards to the specific species /organism will be regarded as incomplete from the public health perspective. It will be worthwhile to note that, this public health perspective incorporating the clinical, epidemiological and bacteriological was being espoused by Mahendra Lal Sarkar at the turn of the 20th century.[166] The modern Eurocentric definition of cholera lacks such a public health perspective, as has been pointed out at the beginning of this chapter.

So cholera should be regarded as a disease which may occur in epidemic, endemic, and even in a sporadic form in which the whole range of symptoms come from the infections of the *vibrio cholerae* (Classic or *El Tor*). It was Hugh who showed that, from the taxonomic point of view, *El Tor* vibrios are solely a bio-type of *vibrio cholerae*.

General Characteristics of Vibrio Cholerae:

Cholera vibrios are gram-negative rods, often occurring in comma shape, pleomorphic and resembling an 'S', and are non capsulated. They have only one polar flagellum and are highly motile. They grow well between 30-40 degrees C, but less rapidly at lower temperature. The organisms grow better under aerobic than under anaerobic conditions. Alkalinity favours their multiplication. They easily reside in tidal rivers and bays. The organism has proven capable of establishing itself in inland water rather than in its classical niche of coastal salt water and has already become endemic in many such areas.

[166] Mahendra Lal Sarkar, *A Sketch of the Treatment of Cholera*, pp. 41-42.

The Odd Cousin:

The discussion will be incomplete without discussing 'non-O-I vibrios'. Among the ten human pathogens within the genus vibrio, one is 'non-O-I vibrio cholerae'. This is so called because the vibrio is not agglutinated by 'O-I-group' antisera prepared from Inaba and Ogawa sera-types. It does not imply that such vibrios cannot be agglutinated with sera prepared against their own antigens.[167] The 'non-O-I vibrio cholerae' are a heterogeneous group of organism that are bio-chemically indistinguishable from 'O-I-vibrio cholerae', but fail to agglutinate in O-I antiserum.

Vibrio Cholerae: A Global Citizen:

The *vibrio cholerae,* whose family history and identity we have alluded to in the above pages, was responsible for the various pandemics which occurred in the past. Though the number of pandemics are questionable due to the shifting focii of the disease and the time span accorded to it, we take this number to be seven, as has been mentioned in many medical textbooks. The first pandemic began in daltaic Bengal in 1814-15 and lasted till 1823. It took Persia, Syria, Central Asia and the Southern part of Russia within its ambit.

The second pandemic also started in India in 1826 and continued till 1837. Cholera revisited all the earlier lands which it had embraced in the first pandemic and took almost the entire Europe in its fold. In the east, China and Japan also came under its pestilential sway. The third pandemic lasted from 1846 to 1863, in which cholera revisited Europe and took both the Americas within its fold. The Far East or today's Southeast Asian countries were also invaded.

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[167] Oscar Felsenfeld, *The Cholera Problem*, p.29.

The fourth pandemic lasted from 1863 to 1879, when the Middle East, Europe and both the American continents fell under its sway. The fifth pandemic again began in India in 1879. It extended to Egypt and Europe in 1883. The disease reappeared in Russia and Europe in 1892. The sixth pandemic lasted from about 1898 to 1923. It was excessively disastrous for India in particular. Its reach extended to Burma, Malaya, Siam, China, Korea, Japan and the Philippine Islands and also made its appearance in Persia, Syria, Turkey and Russia.

With the exception of Russia, Europe has been relatively free from cholera since 1923. However, for the Asian countries, cholera is still considered a lurking danger. It is understood that we are living in the era of the seventh pandemic which started in 1961 and, though it has remained confined to Asia, is still ongoing.[168]

The largest number of cases and deaths due to cholera have been reported from India followed by the Philippines, Vietnam, Pakistan, Burma, Indonesia, Thailand and Iran. In the period between 1961-1965, India alone was responsible for 73.9% of the total world cases and 84.9% of the total world deaths.[169] Even in the recent past, i.e., as late as 1993, there were 9,437 notified cases of cholera though the actual number may be much more inflated owing to the poor reporting about the disease from rural areas. Why rural areas, cholera appears even in advanced cities like Delhi, despite our entry into the 21st century. Quite recently, a news item in *The Hindustan Times* of the 17th May, 2002 reported that "cholera and gastroenteritis are taking a toll on Delhiites, with more and more cases being reported". As per the paper, the Municipal Corporation of Delhi puts the number of cholera cases at 228 and the number of gastroenteritis cases as 17,534 till the 9th of May, 2002.[170]

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[168] K. Park, *Park's Textbook of Preventive and Social Medicine,* Jaipur: Banarsidas Bhanot Publications, 1997, p. 163, Also see G. C. Shattuck, *Disease of the Tropics*, Newyork: Appleton – Century – Crofts, Inc., 1951, pp. 314-315.

[169] K. C. Patnaik and P. N. Kapoor, *Statistical Review of Cholera Problem in India: With particular reference to endemicity and epidemicity*, Central Bureau of Health Intelligence, Ministry of Health and Family Planning , New Delhi, 1967, pp. 1-3.

[170] *The Hindustan Times*, 17th May, 2002.

Clinical Course:

Both the above mentioned water-borne diseases, i.e. cholera and gastroenteritis, display similar primary symptoms. They are both characteristically marked by loose motions and vomiting. The incubation periob for cholera is one to three days and, at times, five to ten days. One of them is the typical, clinical cholera. The clinical course of cholera has been divided into several stages: 1. Stage of premonitory diarrhea, 2. Stage of copious evacuations, 3. Stage of collapse, 4. Stage of reaction, and 5. Stage of Uraemia.[171]

Mild forms which may never go beyond the first or the second stages represent 70 to 95% of the clinically manifest infections and cholera is never suspected. A cholera epidemic is perhaps never anticipated before the typical cases occur because a few clinicians think of the possibility of a cholera infection when the disease is not officially reported in a country.[172] In an outbreak of every case of a 'classical' disease, there will be at least ten other cases of mild or asymptomatic infections.[173]

The patient becomes infective during the stage of incubation and remain so for a week or two after the convalescence. So, they are regarded as incubatory carriers. There are also post-convalescent carriers (when the convalescence is very short and in his apparent health, the patient happens to be a carrier). Besides these two, there are symptomless carriers, i.e., persons who do not show any clinical signs of the disease but who are excreting cholera vibrios.[174]

Antibiotic Treatment:

When anti-biotics were introduced in the treatment of infectious diseases, there were great hopes that cholera would be among those that could be conquered with the aid of such agents, and so several invitro experiments were conducted which gave variable

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[171] S. N. Dey. *Cholera : Its Pathology and Pathogenesis*. p. 1.

[172] Oscar Felsenfeld. *The Cholera Problem*, p.59

[173] D. R. Bell. *Lecture Notes on Tropical Medicine*. p. 145.

[174] Oscar Felsenfeld. *The Cholera Problem*. p.60-61.

results. On the whole, invitro studies on vibrios gave favourable results. Soon, however, researches had to concern themselves with the anti-biotic resistant strains of the disease.[175] "Almost since the beginningof the anti-biotic era, bacterial resistance has been seen as the major obstacle to successful treatment. Hardly any group of antibiotics has been introduced into clinical practice to which some bacterium has not developed resistance."[176]

In the context of the above fact, the Indian cholera situation becomes all the more alarming. In India, we have widespread use of antibiotics. This has led to drug resistant cholera. "Strains of *vibrio cholerae* in India have become resistant to several anti-biotics, and multi-drug resistance is increasing."[177] Researchers of the National Instiute of Cholera and Enteric Diseases in Calcutta who have conducted "studies on *vibrio cholerae* strains isolated from patients in eastern India over the past six years show that the bacilli are resistant to several old as well as new anti-biotics, including ampicillin, tetracycline, furazolidone, norfloxacin, and ciproflaxacin."[178] The Director of this institute, Dr. S. Bhattacharya has warned that "our list of anti microbial agents still effective against cholera is shrinking and the emergence of resistance to specific anti-biotics almost parallels the sequence in which the drugs were introduced in the market place."[179]

Since we are in the 7th Pandemic which started in 1961 and which continues today, the cases of cholera if not managed properly, can give rise to epidemics. India which does not have pure drinking water for a good part of the rural hinterland may have to relive the sufferings due to cholera epidemic. With this pain of the present, let us have a look at the 19th century when cholera clouds hovered recurrently and yielded a rich harvest of death.

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[175] Oscar Felsenfeld, *The Cholera Problem*, p. 94.

[176] Selections from *British Medical Journal*, Vol. 16, April 2000, p. 84. Also see *British Medical Journal*, Vol. 320, 22 Jan. 2000, pp. 199-200.

[177] Selections from *British Medical Journal*, Vol. 17, March 2000, p. 28.

[178] Ibid., p. 28.

[179] Ibid., p. 28.

CHAPTER III

CLOUDS OF CHOLERA[180] AND CLOUDS AROUND CHOLERA

Without a snapping of the umbilical cord and subscribing to the mother–child relationship, 'cholera' serves the analogy of the umbilical cord between the metropole Britain and the colony named India. "Cholera emerged in epidemic form in India in 1817, and, after an initial false start, arrived in Britain in 1831."[181]

Taking into account all that happened in the political realm after the acquisition of Diwani, the East India Company, in fact, remained the surrogate mother, and it was only after 1840s that the real mother increasingly took charge. But before this happened, both the mother and the child had become infected by what was later identified as '*comma bacillus*' or '*vibrio cholerae*'. Thus there came into being two very different 'cholera-stressed societies', one claiming to be the redeemer, protector, and civilizer of the 'other'.

Examining this claim of the metropole during the whole of the nineteenth century from a statistical standpoint, Watt's synoptic and sarcastic comment is indicative of the different epidemiological paths that the two 'cholera-stressed' societies were to follow.

> Britain lost an estimated 130,000 of its resident subject people to five cholera epidemics, each of which, after 1848, claimed fewer and fewer lives. During the same century and first quarter of the next, India lost in excess of 25 million of its people to the same disease. Even more striking was the fact that while England's

[180] Even today in the north Indian gangetic plain at the intersections of summer and rainy season when a day or two becomes too humid, sultry and cloudy, when not a leaf flutters due to cessation of wind movement, general folk characterize these days and its insalubrities by the word *'Gumsii'*, and this characterization entails in it the anticipation of a *Mahamari* particularly Cholera. The hovering clouds of these *Gumsii* filled days are not seen as harbingers of monsoon but bearers of disease and destitution. Besides this general folk wisdom, I am indebted to Mark Harrison for his use of this phrase. He informs us that the idea of "cholera cloud" as a sinister black presence enhanced the anxieties of the British army officers during 1857 rebellion: Mark Harrison, *Climates and Constitutions: Health, Race, Environment and British imperialism in India 1600-1850*. New Delhi: OUP. 1999. p. 179.

[181] Sheldon Watts, *Epidemics and History: Disease Power and Imperialism*. New Haven and London: Yale University Press. 1999. p. 167.

> cholera rates moved steadily downwards, those of nineteenth century India dramatically increased. In 1900, the most disastrous of the year for which statistics had been kept, cholera claimed the lives of upward of 800,000 people, 163,889 in the single province of Bombay. These vastly different totals of cholera death, relatively small in Britain and absolutely enormous in India[182]...

reveal the indifference of the 'mother'; the 'recalcitrant' child appears forlorn and abandoned.

The Beginning:

Cholera, 'as a highly political disease', "seemed to threaten the slender basis of British power in India and to stand at the critical point of intersection between colonial state and indigenous society."[183] The virulence and far reaching devastation caused by the disease, the impact on the colonial economy and military, the unrest that it created among local people, unsettled political debates. It necessitated state intervention and fuelled debates on Hindu religious rites and practices which were seen as antithetical to medical well being and hygiene. It also indicated the limitation of state intervention. Debates around cholera also provided the space that illustrated how the local and colonial power structures converged and contested. In contrast to the cheap, simple and, to some extent, successful smallpox vaccination which became emblematic of the colonial state's "self-declared benevolence and humanity towards the people of India"[184], cholera as an unsettling and incomprehensive disease mocked at medicine's effort to understand it. Cholera leaped across all the preventive hurdles and, therefore, cholera as an entry point to social history is capable of unfolding the crudity of the benevolence of the Raj epitomized in the mother-child relationship.

The disease named cholera commonly known today as *haija* in Hindi (from the Arabic word *hachaizia*), was called by various names such as *morysey, mirtirissa,*

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[182] Sheldon Watts. *Epidemics and History: Disease Power and Imperialism*, p. 67.

[183] David Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth Century India*. Delhi: Oxford University Press. 1993, p. 159.

[184] Ibid., p.120.

vizucega, mordevin, and *mordechien* in different regions and in different languages of India.[185] According to a historical note written on cholera in India in 1911, by P. Hehir, '*mordechien*' was in all probability derived from the French name '*mort de chein*', literally meaning a dog's death.[186] "A disease which begins where other diseases end, with death"[187], as described by the Frenchman Magendie. The body gets distorted, the *'hippocratic facies'*, the '*washer woman's fingers*', makes the eventful death uglier. It was a cadaverizing disease. This was a clear indication of its virulence as reflected in the mounting mortality rate all along the nineteenth century, but more strikingly when the census outgrew its infancy after 1870.

It is generally understood that cholera had been known to Europeans in India for several centuries. But contending this view way back in 1854, John Snow opined that:

> The existence of Asiatic cholera cannot be distinctly traced back further than the year 1769. Previous to that time the greater part of India was unknown to European medical men; and this is probably the reason why the history of cholera does not extend to a more remote period.[188]

Citing the report on the cholera epidemic authored by one Mr. Scot, Snow makes us aware that cholera was prevalent in Madras in the year 1769 and that "it carried off many thousands of persons in the peninsula of India from that time to 1790".[189] Subsequently, it almost disappeared or was not recorded, but it soon reappeared in June 1814, "when it hit with great severity the first bat. 9th reg. N. I. on its march from Jaulnah to Trichirapally; while another battalion, which accompanied it did not suffer, although it had been exposed to exactly the same circumstances".[190]

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[185] John Macpherson, *Annals of Cholera from the earliest period to the year 1817*, London: Ranken And Co. Dury House, 1812, p. 11.

[186] P. Hehir, 'Historical Note on Cholera in India' in *Indian Medical Gazette*. Vol. 46, No.1. 1911, p. 8.

[187] As quoted in S. N. De, *Cholera: Its Pathology and Pathogenesis*, Edinburgh and London: Oliver and Boyd, 1961, p. 2.

[188] John Snow, *On the Mode of Communication of Cholera*, London: John Churchill, 1854, p. 1.

[189] Ibid., p. 1.

[190] Ibid., p. 1.

Though the disease sometimes crops up in the recording of military commanders who, by professional compulsion, had to take notice of the health of their men, it can be safely assumed that cholera incidence was relatively infrequent and that it did not in any sense dominate medical discussion. But things changed suddenly in 1817, when the cholera epidemic ravaged Bengal and, by 1822, its ripples reached the gateway of Europe – Astrakhan. In 1831 "the cholera began to spread to an extent not before known and in course of seven years it reached east ward, to China and the Philippines islands; southwards, to the Mauritius and Bourbon; and to the North-West as far as Persia and Turkey."[191] Soon, Europe came within the ambit of this pandemic.

Reporting on the virulent and mysterious nature of the epidemic from Jessore town, a hundred miles to the east of Calcutta, in August 1817, Dr. Tytler, the civil surgeon of the town, wrote: "An epidemic has broken out in the bazzar, the disorder commencing with pain and uneasiness in different parts of the body is succeeded by giddiness of the head, sickness, vomiting, gripping in the belly and frequent stools."[192] Within a month this bodily disorder was to spread spatially, increasingly implicating newer victims. Cholera crossed 100 miles and spread to Calcutta, and in the following six months engulfed the whole of Bengal from Sylhet to Cuttack. In the next twelve months, the disease spread along the Coromandal and Malabar to the west, reaching Madras by September–October of 1818.[193] Reporting from Madras, the then Secretary to the Madras Medical Board explained that "this disease is characterized by suddenness of its attack"[194] and that in "this severe epidemic death has hitherto been observed to ensue from ten to twenty-four hours from the commencement of the attack".[195] "At Jessore in 1817, it underwent certain

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[191] John Snow, *On the Mode of Communication of Cholera*, p. 2.

[192] P. Hehir, 'Historical Note on Cholera in India', p. 8.

[193] T. J. Pettigrew, *Observations on Cholera, Comprising a description of Epidemic Cholera of India, the mode of treatment and means of Prevention*, London: S. Highley, 1831, pp. 8-10; Also see Arnold, 'The Indian Ocean as a Disease Zone: 1500-1950'in *South Asia*, Vol. 14, 1991, pp. 1-22.

[194] David Arnold, *Colonizing the Body*, pp. 160-161.

[195] Ibid., pp. 160-161.

unknown changes so as to become in many respects a new disease"[196]; the new characteristic it acquired was that, "for the first time, (it) became epidemic and pestilential, portable and doubtless contagious".[197]

From Madras it was conveyed by ships to Ceylon and thence to Mauritius. By 1819 it had appeared in Bangkok and shortly afterwards in Singapore and Malacca, and by 1821 it had reached China.[198] Travelling westwards it arrived in Bombay in 1820 and destroyed over one hundred and fifty thousand people. In 1821, it marched forward towards the Northwest sailing along the river courses. It befriended the caravan travellers and went via road (perhaps the Silk route) to Persia, Arabia and Asia Minor, devastating Central Asia, and reached Moscow in 1830.[199] The 'Big Bear' stood infected. Russia was the meeting ground for Asia and Europe. The unholy exchange of cholera took place at this meeting ground and from here it was distributed to Germany, England and America. Cholera was fostering a global unity.[200]

Travelling almost the whole of India, the cholera epidemic between 1817-21 wrought terrible devastation in the country in general, and in Bengal in particular. This 'baffling disease', an 'inscrutable malady' which knew no logical 'line of progression', unfortunately remained a little more concentrated in Bengal and lasted there till 1823. In the villages and in the crowded cities of Calcutta, in the marshlands surrounding the city and along the river routes of Hoogly and the Ganges, cholera appeared unexpectedly, chose its victims capriciously, reached its peak in a few weeks, and then declined to a few sporadic cases. Cholera was both a terror and a mystery. Maintaining its elusiveness, it disappeared from there between the years 1823-25.

It returned again in 1826 with much greater virulence and ferocity, taking almost the whole of India under its sway. In 1827, it visited Hardwar, the NWFP, the Bombay

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[196] John C. Peters, *A Treatise on the Origin, Nature, Prevention, and Treatment of Asiatic Cholera*, New York, 1866, p. 7.

[197] Ibid., p. 7.

[198] David Arnold, 'The Indian Ocean as a Disease Zone 1500-1950' in *South Asia*, Vol. 14, 1991, pp. 1-22.

[199] John C. Peters, *A Treatise on the Origin, Nature, Prevention, and Treatment of Asiatic Cholera*, p. 31.

[200] Ibid., p. 30.

Presidency, Sind and the Punjab. Slowly cholera began to race through Khiva and Herat via Kabul by 1829.[201] When the first pandemic ended in 1823, it had stopped short of Europe. However, the second pandemic, which started in 1826, brought it to the doors of Europe. A complacent Europe which had suffered no lethal epidemic since its last visit by the bubonic plague almost two centuries earlier, was caught unaware. The 'Asiatic cholera' emerging from a distant corner of British Empire warranted attention. In John Snow's words "its approach towards our own country (England) after it entered Europe, was watched with much more anxiety than its progress in other directions."[202]

We are given the impression that cholera travelled much faster in Europe than in India and that it loved to travel westward rather than eastward. In its early epidemic phases, it travelled westward about twenty one miles per week, while it travelled eastward, say from the Ganges to Canton, with half the speed, i.e., about ten miles per week.[203] It coiled and recoiled Europe like an enraged serpent releasing its venom whimsically. Asiatic cholera acquired extra speed in the then industrializing Europe, "it travelled from eighty to a hundred miles a week and crossed the Atlantic, in old fashioned sailing vessels, at a speed of three or four hundred miles in seven days".[204]

How and why this velocity variation took place and how it was measured, no one knows. But it reveals the barrenness of the European imagination, particularly English, as in the terrorizing spell of cholera pandemic, it had relapsed into a state of selective amnesia about its own insanitary and filthy existence. England in the first half of the 19th century was as filthy as any other country. In its major industrializing towns, sewage and night soil were deposited freely in the street lanes and by-lanes. It was an unwashed London in which many of the rich gambled late into the night, and a few of them endeavoured towards entrepreneurship, while the Irish immigrant proletarian toiled in the factories and lived in the overcrowded cellars, drank untreated and fowl water, and became riotous when cholera epidemic struck their belly.

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[201] P. Hehir, 'Historical Note on Cholera in India', p. 19.

[202] John Snow, *On the Mode of Communication of Cholera*, London: John Churchill, 1854, p. 2.

[203] John C. Peters, *A Treatise on the Origin, Nature, Prevention, and Treatment of Asiatic Cholera*, p. 30.

[204] Ibid., p. 30.

If there was no proof of the velocity variation of the atmosphere, commensurate and corresponding to the high speed by which 'cholera clouds' wafted in Europe, and if the European medical world was not out of the 'Galenic spell' which emphasized, along with maismaism, the humoral predisposition of an individual to receive diseases, one has to definitely concede that cholera needed predisposed bodies which were readily available in the then industrializing and urbanizing Britain. It was on the bodies of these lower class Irish immigrants, on whose sweat and blood the glory of the industrial revolution was based, that cholera acted more readily and actively. However, cholera did not merely remain a disease among the working classes. It was soon to find its victims among the upper strata of the English society. The lives of many famous men were cut short by this malady. Cholera now caught the imagination of the bourgeoisie. But how many 'Oliver Twists' died of cholera, and how many escaped, no one knows. After this pandemic of 1831, Britain in particular and Europe in general were feeling the stress of cholera; medical discourse began to be focused on this new disease both in the metropole and in the colony.

Let us now return to deltaic Bengal. It was the supposed site of cholera's origin which, after 1817, was regarded as the nucleus and the endemic centre. Calcutta, which had grown far beyond expectations, even in early nineteenth century, was a 'dirty, teeming warren'. "Cholera is always present in Calcutta – one of the filthiest cities in the world."[205] Calcutta being a city with numerous ponds and tanks provided a ready breeding ground for the disease. In many cases, when the epidemic was delirious, tanks were ordered to be closed by the officials. Interestingly, one "such tank within the house once resided by Sir Elijah Impey was related to so many cholera outbreaks in the locality that the adjoining street got the name of 'Cholera Street'".[206] In the entire 19th century, Calcutta maintained its choleraic identity. "Calcutta (had) not been free from cholera for a single year between 1841 and 1959"[207], and even after 1960, it was considered a serious threat to the city.

As colonialism entrenched itself and as the public works department became a permanent independent arm of the colonial state, India saw itself laced with new roads,

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[205] John C. Peters, *A Treatise on the Origin, Nature, Prevention, and Treatment of Asiatic Cholera*, p. 21.

[206] S. N. De, *Cholera: Its Pathology and Pathogenesis*, p. 44.

[207] Ibid., p. 41.

railway tracks, canals and busy ports. In the wake of the increasing trade and annexation exercises by the troops, there was constant movement by merchants, troops, administrators and religious pilgrims. The context of a pan Indian colonial government in fact enhanced the possibility of pilgrimage and "the rising tide of pilgrims crested in the age of colonialism".[208] Colonial intervention changed the 'disease ecology' of India. If developments fostered in the wake of colonialism helped in the epidemicization of cholera in India, the rise of maritime trade and the increasing frequency of pilgrimage to Mecca and the slave trade helped in the pandemicization of cholera, and Britain did not remain untouched.

Contagion Contested:

In England the ravages of cholera were disastrously felt during all the four principal invasions of 1831, 1848, 1853 and 1866. The disease appeared to be a product of 'colonial backwardness' carried back to Britain. In all these four epidemics, cholera assaulted not only 'bodies, but Englishmen's pride in race, class and nation'. Its symptoms became a humiliating fate for Victorian gentlefolk. They saw that cholera afflicted them less than it did the poor, ill-fed, ill housed, dirty and drunk. To the chronically moralizing Victorian minds, the lower classes' weak resistance to disease proved their physical and moral inferiority.[209] "Cholera (was) considered a disorder peculiar to the natives, mainly induced by their mean habitations, filthy habits and poor food; and so rare among the better fed, clothed and housed foreign residents."[210] It was asserted "that the number of careful and cleanly persons liable to cholera is always very small."[211] Cholera and nativity became synonymous and it served as the marker of difference. The better fed, i.e., the Europeans, ate meat and so remained healthy and immune to cholera, while the natives subsisted

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[208] Anand A. Yang, *Bazaar India: Markets, Society and the Colonial State in Gangetic Bihar*, New Delhi: Munshiram Manoharlal Publishers Pvt. Ltd., 2000, p. 115.

[209] Karlen Arno, *Man and Microbes: Disease and plagues in History and Modern times*, New York: A Touchstone book, 1995. p. 133.

[210] John C. Peters, *A Treatise on the Origin, Nature, Prevention, and Treatment of Asiatic Cholera*, p. 7.

[211] Ibid., p. 6.

mainly on rice and were inherently slothful, lazy and choleraic. These rice eating and rice water evacuating choleraic natives were fatalistic and believers of the other world and had a penchant for "religious pilgrimages and public fairs with all the attendant filth, misery, fatigue, exposure and bad food".[212]

The connection between cholera and nativity became even more prominent with the demarcation of pilgrim sites as the prime arena where the disease claimed its biggest victory. The increasing focus upon pilgrim sites in the late 19th century served only to reaffirm the link between the disease, its nativity and the role of squalor in its causation. At every religious site where 'cholera spott[ed]' a depot of 'cholera dirt', the disease left behind its largest trail of victims. Whereas in industrializing Britain and Europe the urbanizing cities had been the repository of the disease, in a backward, superstitious and de-industrialized colony as India, the pilgrim sites were perceived as the immediate abode of filth and dirt.[213]

Cholera became not only a marker of difference between the Europeans and natives of Hindustan, but it was also a differentiating factor among Asiatics. This distinction was underlined by the colonizers. The Chinese were as unclean as the Indians, Canton as overcrowded and as filthy as Calcutta, but still to the European 'rational' mind, "cholera did not appear or originate in China ***because*** (emphasis added), religious pilgrimages were not so frequent".[214] Nor did it occur at such colossal magnitude in China. "The significance of invading cholera lay mainly in its capacity to open up fissures within society, particularly between the rich and the poor, or between the host society and immigrant communities."[215] The cholera epidemic humbled the medical and civil establishments. The baffled administration fell back upon the earlier wisdom of 'quarantine.' Nations had tried to prevent the import of exotic diseases by this method. Way back in the fourteenth century, Venetians had invented 'quarantine' – a method of isolating arriving ships for

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[212] John C. Peters, *A Treatise on the Origin, Nature, Prevention, and Treatment of Asiatic Cholera*, p. 12.

[213] Attention will be drawn to the manner in which the colonial authorities dealt with the disease at the pilgrim sites in the next chapter.

[214] John C. Peters, *A Treatise on the Origin, Nature, Prevention, and Treatment of Asiatic Cholera*, p. 13.

[215] David Arnold, *Colonizing the Body*, p. 159.

thirty to forty days. In 1403, Venice enacted that travellers from the Levant must be isolated in a detention hospital for the same period, *quranta giorni*, from which the word quarantine is derived.[216]

As it happened then with regards to plague, so did it happen with regards to cholera. The quarantine proved abortive and cholera soon leapt from it with ease. The medical men, then under the sway of the 'miasmatic theory' and with no '*materia morbis*' or specific causative agent within their comprehension, took an anti-contagionist stance. "Anti-contagionism was primarily and most significantly a movement against the institution of quarantine and cordon sanitaries which were seen as the unwarranted evil resulting from contagionist theories and which caused unnecessary damage to both health and commerce"[217], and so the anti-contagionist stance was also politically correct and

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[216] Maritime Quarantine began in the Mediterranean in the 14th century when plague or the Black Death was taking its toll. Though no precise date and place from where it originated is known, it is generally understood that Venice which was the entry port into Europe from the East was the protagonist in this regard, where regulations required the isolation of people and merchandise for forty days as they were arriving supposedly from plague infected ports. It was thought that forty days of exposure to sunlight and fresh air will render the isolated goods and people non-infected and harmless.

Quarantine in England was introduced late. In 1518, King Henry VIII devised a system and, in 1543, Queen Elizabeth issued plague orders for the quarantining of ships. But England probably never was strict in the implementation of quarantine regulations. The last Quarantine Act was passed in 1825 to fix places at every port where quarantined ships could be berthed.

19th century England, under the stress of cholera epidemics, instead of adhering to or advocating strict quarantine, argued generally against it. As cholera could not be stopped by quarantine and as cholera, according to the miasmatic theory, was generally understood to be non contagious by the medical fraternity of England, the General Board of Health's "Report on Quarantine", in 1849, prompted by the cholera pandemic, was against quarantine. Britain as the leading industrial and commercial nation always found quarantining as an impediment to commercial transaction. England had its own 'English system' authored by Dr. Gavin Milroy and John Simon. The English system limited the detention of ships to those with disease on board. Such ships after cleansing and disinfection were granted the certificate of release or the *pratique* as it was then called. With the streamlining of public health legislation and administration the Public Health Act of 1872 empowered the local Government Board to create port Sanitary authorities and to appoint port medical officers. The different and sometimes contradicting quarantine regulations of different nations remained a bone of contention in every International Sanitary Conference starting from 1851 till the turn of the century. It was only in the eleventh Sanitary Conference in 1903 that a consensus emerged and the first effective international convention on quarantine was signed. The International Office of Public Health which came into being in 1907 was merged after 1947 into the WHO and now WHO sanitary regulations takes care of issues related to public health at the international level.

Spence Galbraith, 'Port Health and Quarantine History' in *Health and Hygiene*, Vol. 21, No. 1, January 2000, pp. 9-15. See also, F. Frederic Cartwright, *A Social History of Medicine*, New York: Longman, New York, p. 97.

[217] K. Mishra, 'Productivity of Crisis: Disease, Scientific Knowledge and State in India' in *Economic and Political Weekly*, October 28, 2000, pp. 3885-3897.

viable. The failure of quarantine measures during the cholera epidemics of 1832 and 1848 in England served to reaffirm anti-contagionism.

As in the metropole, so in the colony, the dominant view among the medical men perceived cholera from an anti-contagionist stance. Sharing this dominant perception and in line with a majority of writers on epidemic cholera in India, Reginald Orton, in 1820, discounted the possibility that cholera might be contagious.[218] Similarly, the Calcutta physician Francis Balfour stressed the importance of the direction of wind, especially of the south-easterly, on diseases like fevers and cholera. Sharing the same view, the army surgeon James M'Cabe, for instance, had noticed that the 1818 cholera epidemic in Madras was attended by a south-easterly wind, which carried unusual amount of rain.[219] Meterological phenomena, especially variations in monsoon and abnormalities of the atmosphere, particularly heat and moisture, were thought to be responsible for diseases and hence were linked to the cause of cholera.

Within the 'meterological theory' of disease causation the influence of the 'moon' was also taken into cognizance and became important. Many prominent medical men in India in the 1820s – including Francis Balfour, naval surgeon James Lind and James Jhonson – implicated the moon in the causation of fever. Reginald Orton, following the line of these 'lunacists'[220] applied this theory to cholera. The implication of the moon was justified on Newtonian principles and was done within the contemporary prevailing scientific paradigm.[221]

Adhering to the anti-contagionist stance, James Lawrie, a surgeon with the 53rd Bengal Native Infantry, maintained that cholera was not 'actively contagious' but became epidemic only at certain times and in certain localities.[222] The emphasis on 'certain times'

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[218] Reginald Orton, 'An Essay on the Epidemic Cholera of India', Madras, 1820, pp. 164-5.

[219] Ibid., pp. 190-91.

[220] Mark Harrison, 'From medical astrology to medical astronomy: Sol-lunar and planetary theories of disease in British medicine, c 1700 – 1850' in *The British Journal of History of Science*, Vol. 33, part 1, No. 116, March 2000, pp. 25-48

[221] Ibid., pp. 202-233.

[222] J. A. Lawrie, *Essays on Cholera, Founded on Observations of the disease in various parts of India and in Sunderland, Newcastle and Gateshead*, Glasgow, 1832, pp. 10-14.

and 'certain localities' reflected his adherence to the meteorological theory of disease causation within the then prevalent climatic paradigm. This was compatible with the 'humoral explanation' of diseases, where atmospheric disorders were thought to have generated disorders in the body. Lawrie's stress on 'certain localities' indicated cholera's preference for lower classes and their unhealthy abodes. Sharing the view of 'atmospheric influences', the role of filth and dirt in cholera causation from an anti-contagionist standpoint, the French traveller, Victor Jacquemont, who was in India from 1828 to 1831, grasped the differential impact of cholera, i. e., its preference for sepoys and Irish soldiers who came from lower classes to serve in the British army. Jacquemont emphazised that in contrast to the indigent and intemperate soldiers, 'gentlemen' were seldom its victims.[223] William Twinning, an assistant surgeon of the Bengal army in 1824 and later a surgeon at Calcutta General Hospital, who also was an active member of Calcutta Medical and Physical Society, discounted any possibility of cholera being contagious in India. Like Jacquemont, Twinning also stressed on the role of sudden changes in temperature on cholera causation.[224]

Among the many who commented and opined on the causation and nature of cholera, there appeared to be a loose consensus on at least three aspects of the disease. First and foremost was the understanding that cholera was non-contagious. Second was the role of atmospheric changes due to temperature variation. Finally, there was the aspect of the preference which cholera exhibited for the weak, the indigent and intemperate who generally inhabited the filthy, ill-ventilated dusty suburbs having improper diet and insanitary habits. Apart from the larger native population, this included the unhealthy Irish soldiers in the 'lower order' of the British army, who, by their drunkenness and general intemperance, fell prey to cholera.

There was almost no idea as to the specific cause of the disease. All the medical men appeared vague with the exception of Edmund Alexander Parkes, a famous hygienist

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[223] Victor Jacquemont, *Letters from India. Describing a journey in the British Dominions of India, Tibet, Lahore and Cashmere, during the years 1828, 1899, 1830, 1831 undertaken by order of the French Government*, edited by J. Rosselli, OUP, 1979. See letter dated 7th July 1832. Vol. 2, p. 341.

[224] William Twinning, *Clinical Illustrations of the more important diseases of Bengal with the result of an inquiry into their pathology and treatment*, Calcutta: Baptist Mission Press, 1832, p. xvii and pp. 398-400.

of England, who in the initial three years of his medical career had served the Army Medical Services in India during the 1850s. Parkes did talk about the presence of a '*materia morbis*' or 'specific agent' in connection with cholera.[225] Not discounting the connection between the prevalence of cholera and the seasonal variation, a slow but definite cognition of a 'distinct cause of cholera' was emerging. By the end of the 1850s it was understood that this 'distinct poison' had a separate existence which certain conditions of the climate could aggravate or repress. [226]

Optimistic Search:

The climatic conditions which aggravated the pestilentiality of cholera were to be curtailed by proper sanitary precautions and the sanitarians thought themselves entitled to proclaim that it was within the power of man to make such pestilence impossible. To attain this greater objective, they exhorted the scientific community to 'search sedulously' for the 'specific poison' of cholera which they thought was propagated by certain special laws, sometimes by what they called 'contagion' and sometimes by other means. The medical men and sanitarians used the word 'poison' only by default and lack of a better term to signify the original cause of the disease. They were clear on the point that these 'poisons' require certain conditions for their development and that by certain conditions their action was modified or destroyed.

Hoping for science to "succeed in delivering the human race from the terrible scourge of cholera"[227], they, with mixed feeling of optimism and helplessness, understood the limitations of the colonial state in embarking on a grand sanitary improvement programme. They realized the practical impossibility of achieving this aim and hence ardently desired for a 'Jennerian discovery' and intervention within the realm of cholera. It was anticipated by these medical men that

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[225] E. A. Parkes, *Researches into the pathology and treatment of the Asiatic or Algide Cholera*, London, 1847, p. 156.

[226] *Second and Third Sections of the Report of the Commissioners appointed to inquire into the cholera epidemic of 1861 in Northern India*, Calcutta Govt. Press, 1864, p.188.

[227] Ibid., p.197.

> success will not alone be due to the progress of general sanitary improvement. It will be due, if not to the discovery of the actual cause in which the disease has its origin, at least to the knowledge of the manner in which its specific poison can be propagated or can be rendered innocuous.[228]

For them, "This was a belief which in no manner supercedes or interferes with the conviction of the vast improvement of the public health."[229]

Simultaneously, with the cognition of some 'specific poison' as the causative agent for cholera, fissures began to appear in the anti-contagionist stance. The non-contagionist stance could not reconcile with the erratic nature of cholera. Why cholera attacked a particular place leaving unharmed the immediate neighbourhood, the "manner in which places, under apparently identical sanitary conditions, have sometimes been attacked and sometimes avoided"[230] by cholera and such other contradictions could not be explained by adhering to one specific stance. The non-contagionist stance served to demarcate cholera from other contagious diseases like smallpox and syphillis, which were plainly regarded as contagious. That much efficacy to the non-contagionist stance was conceded, but beyond that, "the older universally accepted belief that cholera was not a communicable disease"[231] was now questioned.

In the 1860s, although opinions differed very widely regarding the manner in which cholera was propagated, and although the term contagion still remained rejected, to the medical men of the age, "there remained no question that the weight of authority was decidedly in favour of human intercourse".[232] In their opinion, "this belief is affected in no degree by the evidence which shows that, under ordinary circumstances, cholera is not directly communicable from man to man by contagion in the same manner which holds

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[228] *Second and Third Sections of the Report of the Commissioners appointed to inquire into the cholera epidemic of 1861 in Northern India*, p.1

[229] Ibid., p.197.

[230] Ibid., p.195.

[231] Ibid., p.194.

[232] Ibid., p.195.

good for some diseases."[233] They attached very different ideas to the term contagion and were reluctant to use it with reference to cholera. Qualifying their use of the term 'contagion', they made their standpoint clear:

> when we state that the evidence appears to us almost decisive of the fact of the communicability of the disease, we in no way intend to express the belief that it is propagated by actual contact, or through the medium of infected air, or by any particular process, nor that the poison can only be multiplied by the disease itself. We simply concern ourselves with the fact, beyond which our knowledge does not extend, ***that cholera is under certain circumstances, communicable by human intercourse*** (emphasis added).[234]

By the 1860s, nine out of ten medical men were of the opinion that cholera was, under certain circumstances, communicable by human intercourse. "Yet, in their anxiety not to encourage a belief among the soldiers which, they feared might be practically mischievous, they not infrequently acted as if they possessed no conviction of the kind."[235] Edmund Walter Eyre of the Madras Medical Service conceded that he could not see any admitted contagious disease "supported by stronger proofs of personal communicability".[236] Still, he cautioned that "it may not be desirable to disturb the confidence of the public in the persuasion of the non-contagiousness of cholera,"[237] instead, in his opinion, "the medical men (could), without creating alarm, act prudentially, in the belief (that it was) contagious."[238]

To curtail fear psychosis among the soldiers, the medical men posed as anti-contagionist but in reality they were contingent-contagionist. Many medical men did not subscribe to this falsehood and, in the words of Dr. Budd, it was like "allowing sentiment

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[233] *Second and Third Sections of the Report of the Commissioners appointed to inquire into the cholera epidemic of 1861 in Northern India,* p.195.

[234] *Second and Third Sections of the Report of the Commissioners appointed to inquire into the cholera epidemic of 1861 in Northern India,* p.195.

[235] Ibid., p. 197.

[236] Edmund Walter Eyre. 'Is Cholera Contagious?' in *Indian Annals of Medical Sciences* or *Half-yearly Journal of Practical Medicine and Surgery*, No. III, October 1854, p. 44.

[237] Ibid., p. 44.

[238] Ibid., p. 44.

into the domain of science".[239] Such was the importance attached to the health of the army, and such was the capacity of cholera to undermine it, that even 'misinformation' was employed to ensure the morale of the soldiers in the wake of cholera epidemics.

Cholera was always depicted by the metaphor of 'wild fire' indicative of a crisis par excellence. The army was the only institution which had the capacity to indulge in such crisis management, more so because the medical men largely belonged to this institution. To implicate the army in the epidemic management was to make the most formidable arm of the Empire vulnerable.

Waste from diseases, especially by cholera, among European troops was always high. Almost every war saw deaths by cholera. The Royal Commission on the Sanitary State of the Army in India, appointed in 1859, recorded a death rate of sixty per thousand among British troops in the years running up to the mutiny (over three times as high as the death-rate of any regiment in Britain), and identified the causes as inadequate sewerage and water supply, poor drainage and ill-ventilated and over crowded barracks. In its report of 1863, the Commission recommended the creation of distinct areas of European habitation (military cantonments and civil lines) regulated by sanitary legislation similar to that in Britain, and situated in accordance with the topographical principles laid down by J. R. Martin, President of the India Office Medical Board and member of the Commission. Martin advocated the troops to be sent in rotation to hill stations about five thousand feet above sea level.[240] This advocacy of Martin was to be implemented later.

However, the continuing vulnerability of British troops is demonstrated by the fact that they still suffered mortality rates far higher than their Indian counterparts.

> During the cholera epidemic which swept northern India in 1867, European troops experienced a cholera mortality rate of almost 14 percent per 1000, whereas Indian troops died at a far lower rate of 3 percent per 1000. In fact, the death rate from all disease except fever was lower among Indian troops than among Europeans.[241]

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[239] . *Second and Third Sections of the Report of the Commissioners appointed to inquire into the cholera epidemic of 1861 in Northern India*, pp.197-8.

[240] *Report of Commissioners, Appointed to enquire into the Sanitary State of the Army in India, Parliamentary Papers I and II (1868).*

[241] *Sanitary Commission Report with Government of India (1867)*, 148, 191; (1868), 73.

High mortality and morbidity rates among European soldiers, indicating the failure of the hope of acclimatization and seasoning in Indian climate; the baffling and annihilating nature of cholera and the shifting standpoints to understand it; the rurality of cholera epidemic which made the ambit of endemic area so large that it became difficult to intervene, more so because it entailed interference in the religious and cultural sensibilities of the natives; the real fear of religious backlash in the form of a second mutiny after 1857; the infancy of the census and the unreliability of meteriological registers at least till 1870; the colonial government's unwillingness to provide economic backing to general sanitary precautions; the obsession with the army's health due to high military priorities; the general contempt for the native inhabitants and their landscape especially in the post 1857 phase when the honeymoon with the 'orient' had ended – all of these and many other factors ensured the 'enclavist' nature of sanitary measures.

The majority of the 'Sanitary Commissioners' acted as 'Epidemic Intelligence officers' who collected data and information from various parts of the country. The epidemiological clues derived from their reports were to be applied in the cantonments to ensure the health of the army. These were not used to forge a sanitary movement in the public domain at least till 1870.

Health Goes Public:

In contrast to the absence of any sanitary movement in India, England saw a full-fledged movement led by Chadwick, Snow and John Simon. As in India, so also in the metropole, the exact causality of cholera was not known. There also, generally within the climatic paradigm, the 'miasmatic theory' remained the canonical theory with regard to cholera causation. However, as a preventive measure, the agenda of sanitation was not only placed but was also carried forward on a large scale. Of course, the urban character of the cholera epidemic in England, in contrast to its rural character in India, helped in the initiation and institutionalization of sanitary measures.

In fact, way back in 1817, making a sanitary critique of the ramifications of the industrial revolution, Robert Owen, in a rather naïve way, had linked the filthy insanitary conditions of the working class with the causality of diseases. He tried to induce the

Government to initiate constructive planning to mitigate the damage caused by rapid advancement of the industrial revolution. Owen, however, failed in his effort. Picking up this strand, Chadwick through his "Report on an inquiry into the sanitary conditions of the labouring population of the Great Britain in 1842", shook the bourgeois society out of its complacency.[242] Chadwick's report in a sense established the relationship between the dirt and disease etiology, and sanitary measures were initiated. The medical men of the time, with their anti-contagionist stance, manifested contempt for Chadwick's enthusiasm for sanitary measures, but with every epidemic he assumed greater leverage and was soon able to implement many schemes for clean drinking water and sewage systems.

Soon, in 1849, John Snow and William Budd's epidemiological findings proved cholera to be a water-borne disease. This breakthrough by Snow and Budd validated Chadwick's effort and gave him an intellectual acquittal. "John Snow and William Budd not only proved Chadwick's contention that pure water supply and efficient disposal of sewerage is essential to health, but came close to anticipating Pasteur's Germ theory."[243]

Though later on Chadwick's evangelical and dictatorial fervour brought him disrepute, his legacy was carried forward by the persuasive John Simon who, apart from being a sanitarian par excellence, proved himself a skilled diplomat, "lobbying members of parliament, feeding his own ideas into their minds, flattering them into self-delusion that they had themselves conceived his plans".[244] By and by, Simon convinced the political masters of the day about the efficacy of the entire sanitary movement which he was leading.

Shortly, newer sanitation techniques were developed and technological innovations fed into the diversification of sanitation techniques. The efficacy of the pump and the reverence for soap were to soon become the hallmark of urbanity and industrial life. Health became public in England. Medical intervention took cognizance of emerging industrial diseases like lung disease, occupational diseases of various kinds, malnutrition etc. Like

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[242] F. F. Cartwright, *A Social History of Medicine*, London and New York: Longman, p.103. For more details see, Christopher Hamlin, *Public Health and Social Justice in Age of Chadwick: Britain*, 1800-1854, Cambridge, 1998.

[243] Ibid., p. 109.

[244] Ibid., p. 111.

Chadwick's sanitary maps, infant mortality maps were produced. As is generally alleged, Chadwick may have reduced the multi-causality of the disease by reducing disease etiology to filth and dirt, but the movement which he propelled saw health concerns in a multi-dimensional way and health became a national agenda by 1880s in Britain.

In India, within the climatic paradigm and under the influence of the 'miasmatic theory' of cholera causation, every endemic area of cholera was seen to be so because of its filth, dirt and overcrowding. Slowly, the entire landscape and its natives with their 'peculiar social institutions' were made responsible for the disease. But this sanitary critique did not resolve the anti-contagionist and contingent-contagionist tension regarding the nature of cholera. It kept resurfacing. It was not resolved even in the metropole but there the sanitary critique produced a Chadwick and a Simon who could lead a sanitary movement. In India the 'dynamism' of the colonial government did not produce any Chadwicks or Simons. Even Snow's epidemiological findings got a very late reception, as the 'meteorological theory' was adhered to by Bryden and Cuningham – the first two sanitary commissioners of India after 1860s. Their epidemiological inquiries tried to link every specificity of Indian climate to cholera. In doing so, they claimed not only special knowledge of the disease but also pleaded for the epidemiological uniqueness of India.

Contradictions:

In the wake of the severe cholera epidemic, there was no clear-cut sanitary policy to come to terms with it. Varieties of conjectures with regard to the causality prevailed both among metropole medical men and colonial sanitary commissioners. Its causation and communicability, and various parameters which defined them, were understood differently and led to contestations and dissent, though the influence of Bryden and Cuningham loomed large. Cholera epidemic and the debates around quarantine as its preventive measure gave rise to further contestation and made the cholera epidemic controversial.

There were too many theories regarding cholera and, as will be shown, while some of these theories were compatible with each other, they sometimes negated one another as well. Every theory provided a rationale for one particular mode of sanitary reform. One scientific authority was posited against another. Two different medical men were seen

sharing the same view on one aspect of the disease and on some other aspect of the very same disease they held diametrically opposite views. There was no one-to-one correspondence between the theories which evolved in the metropole and those that emerged in the colony. The borrowings were selective and considerable autonomy in understanding was manifested by the colonial medical men as regards cholera causation and communicability in particular, and diseases in general.

Due to the shifting standpoints in understanding cholera, an element of uncertainity and fluidity characterized the grappling of medical discourse with epidemic disease. This had its repercussions on the way sanitary reforms were carried out. In the 1860s, Bryden stuck to his rigid position that cholera was an air borne disease and not water borne. In his opinion, an unidentified 'pathogenic organism' was transported by monsoonal air currents beyond the endemic area and was responsible for the epidemic. Under the overarching influence of the humoral theory of disease and his own obsession with statistical technique and analysis, Bryden sought to write a 'Natural History'[245] of cholera in India, which was to be different from that of Europe because the spreading agencies were different in these countries. Thus, he accorded an epidemiologically unique status to India.

But Bryden had his own contradictions. For him cholera in Britain and India was different because the seasons and metrological agencies in the two countries were different. In Europe, according to Bryden, cholera might be spread by contagion instead of

[245] "[Natural History of disease: Many diseases have certain well defined stages that, taken all together are referred to as the 'natural history of the disease' in question. These stages are as follows:

I. Stage of pathological onset
II. Presymptomatic stage: from onset to the first appearance of symptoms and / or signs. SCREENING tests may lead to earlier detection.
III. Clinically manifest disease which may progress inexorably to a fatal termination, be subject to remissions and relapses, or regress spontaneously, leading to recovery.

Detection and intervention can alter the natural history of disease. The term has also been used to mean "descriptive epidemiology of disease", example by JOHN RYLE.]" Taken from John M. Last, (ed.) *A Dictionary of Epidemiology*, New York, Oxford: OUP, 1993.

monsoonal air currents.[246] J. M. Cuningham,[247] (Sanitary Commissioner of India 1866-84) stepped into the shoes of Bryden. Like his predecessor, he was also attempting a 'Natural History of Cholera'. He similarly believed in the air borne theory of its spread and raised several questions:

> What is the history of this epidemic? What are the facts connected with its spread and how far do they tend to increase our knowledge? Is a specific poison multiplied in those who are attacked, which is capable of being transmitted to, and of producing like symptoms in, others; and if this were the case, is this poison contained in the discharges, and is it usually disseminated by means of water? Or setting aside the doctrine of contagion, both in the ordinary and modified acceptations of the term, is man the carrier of a specific entity from an infected locality, which germinates and bears fruit, whenever the local conditions are suited to the growth? Is human intercourse the great and indispensable means by which cholera is borne from its home and spread over the earth?[248]

By Cuningham's own confession,

> these were weighty questions which affect the well being not only of India, but of countries in the world, questions which, in these days of rapid and constantly increasing communications between the East and the West have a significance and practical importance very much greater even than they had before.[249]

Was J. M. Cuningham indicating the possibilities of beneficial borrowing of medical knowledge on cholera from the metropole? If this was what he indicated, and on that token desired, then the whole tenure of Cuningham as Sanitary Commissioner, and the various reports he authored, fell short of his own ideals. J. M. Cuningham like Bryden never showed much enthusiasm or support for John Snow's water borne theory of cholera

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[246] Mark Harrison, *Public Health in British India: Anglo-Indian Preventive Medicine 1859-1914,* Cambridge University Press, 1994, pp. 101-102.

[247] CUNINGHAM, JAMES MACNABB (1829-1905)
"Educated at Edinburgh University: M.D: entered the Bengal Medical Service, 1851; Secretary to the Sanitary Commissioner, 1866: Professor of Hygiene Calcutta Medical College, 1866: Sanitary Commissioner of Bengal, 1869; Sanitary Commissioner with the Government of India, 1875-85, and Surgeon General 1880-85: retired 1885: Member of the Army Sanitary Committee, 1891-96; Author of *Cholera: What can the State do to Prevent it?* Represented the Government of India at the Paris International Sanitary Congress, 1894; C. S. I, 1885; Honorary Surgeon to the Queen, 1888: died June 26, 1905." Taken from the *Dictionary of Indian Biography*. C. E. Buckland. Indological Book House; Delhi and Varanasi, 1971, pp. 102-03.

[248] J. M. Cuningham, *Annual Sanitary Report for 1872*, (Section 1 –Report on the Cholera epidemic of 1872 in Northern India).

[249] Ibid.

causation. (Snow had already published a pamphlet regarding this theory and a book in 1854).[250]

Neither can Cuningham be absolved from the charge of being cold towards those who took a clue from Snow's water borne theory and wanted to tune preventive measures against cholera in a more specific direction. The dissenters who subscribed to Snow's water borne theory in some way or the other were, Dr Edmund Alexander Parkes, (the author of *A Manual of Practical Hygiene*), A. C. C. De Renzy (Sanitary Commissioner of Punjab, 1868), Dr. J. M. Coates (Sanitary Commissioner of Bengal), Francis Macnamara (Professor of Chemistry at Calcutta Medical School in 1860s), and S. C. Townsend (Sanitary Commissioner of Central Provinces in 1869).

There was never a consensus on all aspects of cholera. For example J. M. Cuningham was more or less an anti- contagionist, at the same time, he was opposed to the pilgrim theory. He opposed quarantine (pilgrim theory) because he thought that "fear of quarantine compels concealment of cholera cases".[251] A. C. C. De Renzy[252] opposed Cuningham's anti-contagionist stance but agreed with his opposition to quarantine because in De Renzy's opinion: "they (i.e. quarantine) led the people to conceal the existence of the disease, and, so far tend to diffuse, rather than limit, the contagion".[253] Clearly, De Renzy was a contagionist unlike Cuningham who was an anti-contagionist. So, from two diametrically opposed standpoints of cholera causation, they both were anti-quarantine as far as preventive measures were concerned. Again S. C. Townsend, unlike Cuningham, was a contagionist about causation. Interestingly, all the three were against quarantine.[254]

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[250] John Snow, *On the mode of communication of Cholera,* London, 1854.

[251] J. M. Cuningham, *Annual Sanitary Report of 1872*, (Section 1—Report on Cholera Epidemic of 1872 in Northern India).

[252] DE RENZY, SIR ANNESLEY CHARLES CASTRIOT (1829- ?)
"Born May 6, 1829; Son of Thomas De Renzy; educated at Trinity College, Dublin: entered the Bengal Medical Service, 1851: present at the capture of Rangoon, 1852; Served in the Mutiny, 1857-58; Siege and capture of Lucknow, 1858; Naga campaign and capture of Khonoma, 1879, as P. M. O.: First Sanitary Commissioner of Punjab: Surgeon-General; retired, 1882; was made a K. C. B. 1902: Author of several Sanitary Reports." Taken from the *Dictionary of Indian Biography*, C. E. Buckland, Indological Book House: Delhi and Varanasi, 1971, p. 117.

[253] Home / Sanitary, March 1874, No. 14-20 (A), National Archive of India (NAI).

[254] Ibid.

Similarly, Dr. G. S. Beatson[255] unlike all the above, was loosely anti contagionist or was a contingent-contagionist. Beatson held that:

> in considering the question of expediency of restricting or of not restricting freedom of intercourse, between localities infected or non infected with cholera, we leave out the word 'contagion' altogether, as no one of those who believe in the diffusion by human intercourse for a moment maintain or think that cholera is contagious in the sense in which we apply that term to smallpox, scarlatina, or the plague. On the contrary, they believe that persons in attendance on the sick run in ordinary circumstances and with the ordinary precautions little or no extra risk.[256]

This jelled well with Bryden's and Cuningham's argument for a preventive action in the form of 'general sanitation' or 'practical sanitary action', as against De Renzy's and Parkes' argument for more specific measures against particular diseases like cholera. Further, in Beatson's view, cholera:

> therefore in the ordinary sense may be considered to be non-contagious. Certainly it is contagious in the usual acceptation of the term in very limited degree, and probably only under favourable sanitary conditions, and in the case of persons who are at time predisposed to the disease.... But not withstanding the apparent fact that cholera is but very slightly contagious, persons who have been in close attendance on a cholera patient cannot be too careful to observe all necessary precautions as to cleanliness and changing of clothes before they mingle with other individuals; for we have reason to believe that there is sufficient evidence in recorded facts that a person who has been in attendance on a cholera patient, without himself showing any symptoms of the disease, may be the medium through which a third person (predisposed to take cholera) may take it and die.[257]

It is with such ambivalence as cholera being at the same time 'contagious', 'non-contagious' and 'slightly contagious', that Beatson treaded his path of explanation. Interestingly, from this standpoint, Beatson argued favourably for the efficacy of quarantine opposing De Renzy, Townsend and more particularly Cuningham. Cuningham

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[255] BEATSON, GEORGE STEWARD (? – 1874)
"M.D., Glasgow, 1836; entered the Army Medical Department, 1838, served in Ceylon, 1839-51; In the Burmese war of 1852; the Crimea, Ionion Islands, Madras: Surgeon-General in India and P. M. O. of European troops, 1863-68, and again, 1871-74; was in charge of Netley Hospital 1868-71; Honorary physician to the Queen; C. B. 1869; died at Simla, June 7, 1874." Taken from the *Dictionary of Indian Biography*, C. E. Buckland, Delhi and Varanasi: Indological Book House; 1971, p. 32.

[256] Home / Sanitary, March 1874, No. 14-20 (A), National Archive of India (NAI).

[257] Ibid.

had argued against quarantine stating that there was frequent abuse of regulations pertaining to quarantine. Opposing this, Beatson opined: "I regard such occurrences were evidence of abuse of regulations, not as any evidence that certain judicious regulations on the subject are in any way to blame for what was not essentially a result."[258]

Beatson interestingly quotes Parkes to validate his opinion on the efficacy of quarantine, but Parkes himself was neither an advocate of quarantine nor its sharpest critic. Citing page 479 of Parkes' book, Beatson notes: "An island or an inland village far removed from commerce and capable for a time of doing without it may practice quarantine and preserve itself, but in other circumstances both theory and actual experiments show that quarantine fails."[259] Parkes advocated 'practical hygiene' i.e. the use of disinfectants both against diarrheal discharges and to linen.[260] " In the case of troops coming from infected districts they should be kept in separate buildings for twenty days and ordered to use latrines attached to them in which disinfectants should be freely used."[261]

The 'quarantine' or 'pilgrim theory' debate itself reflected many dissenting voices. Moreover, the memory of 1857 did not give the colonizers the courage to interfere with the native customs beyond a limit. Therefore to implement 'quarantine' as a policy measure, the views of all princely native states and British administrators and Chief Commissioners, Lt. Governors of British Indian states were sought and a consensus was attempted. Many native states frankly admitted their inability to implement it, chief among them being the native states of Rajputana and the state of Hyderabad. "The opinion both of officiating Resident (Mr. Cordery) and Sir Salar Jung seems opposed to any active measures of (quarantine) beyond what was...proper sanitary arrangement."[262] "In Rajputana the views

[258] Home / Sanitary, March 1874, No. 14-20 (A), National Archive of India (NAI).

[259] Ibid.

[260] Ibid.

[261] Ibid.

[262] Home / Public January 1870, No. 163-240 (A) National Archive of India (NAI).

of the native states (were) strongly opposed to any measures of prohibition (on pilgrimage)."[263]

Many Chief Commissioners and Lieutenant Governors of British provinces thought that the 'quarantine' would have a "considerable deterrent effect" and opined that those who disregarded the prohibition should be criminally prosecuted.[264] There was the desire to inflict punishment but also the fear of 'native' backlash. Some administrators argued for its subtler implementation. For instance, Mr. King, Deputy Commissioner, Partapgurh, thought that it was 'most practical' that "pilgrims be licensed, and great personages be discouraged from taking large retinues, and especially persons of weak health; that at shrines resorted to by Hindus, a small tax be levied from Mohammedans to discourage resort thither, and vice versa."[265]

Nevertheless, some administrators were more cautious and argued against quarantine as a general rule. The Lieutenant Governor of Punjab observed that:

> as a general rule, all official action having the appearance of interfering with the religious usages of the people should be studiously avoided, unless the reasons for such interference are potent and unmistakable. Upon this principle, under ordinary circumstances, any official action in the way of dissuading or discouraging people from proceeding to pilgrimage would be impolitical and liable to misconstruction.[266]

Opinions expressed in all Residents' reports from various native states, small and big, on the whole were consistent as to the inadvisability of authoritatively prohibiting pilgrimage in general. "As in the days of Chaucer, so now the folk 'longen to go on pilgrimages', and it is generally held that to forbid the gratification of this 'longing' would be a violation of the promise of religious toleration."[267]

The administration also underlined the need to discourage pilgrimage by means of a system or tolls. The Chief Commissioner of Oudh opposed this and quoted Maharaja

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[263]Home / Public, January 1870, No. 163-240 (A) National Archive of India (NAI).

[264] Ibid.

[265] Ibid.

[266] Ibid.

[267] Ibid.

Man Singh in his favour. The Maharaja was of the view that "pilgrim tax, eo-nomine, would be regarded as a jezia or poll tax".[268] This type of opinion went against the desire of the colonial state to demarcate its rule from the earlier state.

Just as cholera causation and its communicability were widely debated, so too did the efficacy of 'quarantine' as a preventive measure against the spread of cholera, remained an unsettled debate. But internationally a consensus was being reached on cholera. The International Sanitary conference opened at Constantinople on 13th February 1866. The conclusion of that conference stated the following points:

1. That cholera is communicable from the diseased to the healthy.
2. That it may be communicated-
   i) By the persons in the state of developed cholera and,
   ii) By persons suffering from choleric diarrhea who can move about and who are apparently in health for some days during the progress of the disease.

Again :-

" The transmissibility of cholera being adopted as a principle, the law of propagation to be deduced from it is evident; cholera spreads everywhere in proportions to the facility and multiplicity of communication."[269]

India was famous as a choleric country, so ships moving out of India towards Europe had to face quarantine measures. The colonial government protested against this. But the contradiction was as to how a government, which was against quarantine at the international level, was to implement it as a preventive measure in India. How could the colonial state, as a victim of quarantine internationally, victimize its own people with the same measure?

In the post-mutiny phase, as the honeymoon 'with the orient' had ended and as the racial stereotypes hardened, the native body and landscape as a source of disease became more prominent. During the phase when acclimatization/seasoning was being advocated, the emphasis was on the British body to tune itself to the climatic conditions of India. Due to the failure of the older theory of acclimatization, and the racial turn, the blame was squarely put on the natives and their filthy mode of living. Indians were thought to be

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[268] Home / Public, January 1870, No. 163-240 (A) National Archive of India (NAI).

[269] Home / Sanitary, March 1874, No. 14-20 (A), National Archive of India (NAI).

inherently diseased. "Almost every native face is scarred by smallpox... it is common among natives that they accept it as a necessity."[270] Similarly, in the changed English perception, festivity and filthiness were synonymous for the native. The 'pilgrims on the road' as the disease carrier intersected with the army's 'line of march', increasing the vulnerability of the army.

These large movements of 'people on the road', on 'fruit full journeys' and their convergence at a sacred site were seen with alarm by the colonial state. A large crowd at an 'autonomous' sacred site with the propensity to spread diseases in a famine afflicted country challenged the parameters of the colonial rule.

Slowly, in the debates around cholera, the pestilentiality and the choleric nature of Indian plains become prominent. The dissenters who argued against Bryden and Cuningham started taking cognizance of the newer theories of cholera causation in the metropole in particular, and Europe in general. As the influence of Bryden and Cuningham receded into the background, Snow's theory of cholera being a water-borne disease acquired the much belated acceptance in India. Some of the dissenting medical men in the colony sought vindication in Max Von Pettenkofer's 'sub-soil water theory' of cholera causation. Later, Koch's 'microbial theory' of cholera causation was also received but its considerable influence in the colony could be felt only after the 1890s.

With the acceptance of these new theories advanced by Pettenkofer and Koch, the Indian landscape increasingly came to be considered as a cradle of cholera causing microbes (*comma bacillus*) spread by the presence of a porous soil with abnormally high levels of ground water and the Indian body as its carrier and agent. Pettenkofer's theory made the chemical and physical analysis of the sub-soil and its humid content important whereas Koch's theory of cholera causation advanced a move away from chemical to bacterial analysis of water supplies. Both the theories in a way validated Snow's water-borne theory.

The combined effect of Pettenkofer and Koch gave the agenda of sanitation a new meaning. On the one hand, sub-soil drainage for cantonment became important; on the other, the supply of wholesome water to the cantonment gained importance. Thus, the disease and deaths suffered undermined the initial optimism of acclimatization and

[270] Home : Sanitary, February 1876, No. 13-20(A), National Archive of India (NAI).

seasoning and consequently gave rise to great anxiety. The matter became worse and tension-ridden because the biologically determined racial turn declared that the Europeans were biologically, i.e., innately, a superior race. Now this superior race had to live up to its own professed superiority.

Above all, it had to save its dying soldiers in order to instill confidence. Since the British empire was as much founded on the fiction of race as on the Indian soil, there was the need to make the landscape, on which the British were to dwell, safe, habitable and healthy. The cantonment as the dwelling place was to be made the safest site. The anxiety of the British became all the more acute because of the baffling, teasing and annihilating nature of the disease. No definite opinion on the origin and spread of this disease was forthcoming (except in the case of small pox, there was no major break through). The endeavour towards preventive measures became all the more conflict-ridden because during 1850-1880, we see diseases (like cholera) evading the comprehension of the medical men in both the metropole and the colony. At both places, i.e. at the centre and the periphery, the various conjectures that emerged were debated and contested. Though they influenced each other, one-to-one correspondence was non-existent and, in many cases, was characterised by considerable time lag. In fact, the colonial medical-men or rather the colonial state was very selective in allowing the metropole to influence the indigenous policymaking pertaining to sanitary measures.

Perhaps, it was due to this reason that the responses of the two cholera-stressed societies were so different. Thus, having underlined the colonial state's selective attitude in allowing the metropole to influence its sanitary measures, we will now narrow our focus on the colony. In the next chapter we will compare and contrast two cholera-stressed sites within the colony and gauge the response of the colonial state towards them.

CHAPTER IV

CHOLERA, CANTONMENT AND PILGRIM SITE IN COLONIAL INDIA.

The triumphal mood of imperial and colonial expansion had to invariably come to terms with the harsh realities of disease and mortality. These informed the ways in which medical discourses were framed out of the existing traditions, both Indian and European. They also, in turn, informed the many sanitary reform agendas which were set aside both in the metropolitan and colony though with marked differences. "British attitude towards the Indian environment and the process of imperial expansion were mutually constitutive; the one shaped and was in turn shaped by the other."[271]

The purpose of this chapter is to "explore the nexus of ideas surrounding health, environment and physical difference"[272] by focusing on the baffling nature of cholera as a disease so as to understand "their implications for, and relationship to colonial rule".[273] In doing so, it attempts to further pinpoint the fragile moments of the colonial state/rule.

This exploration will bring two sites of investigation into picture – the cantonment and the pilgrim site; one ordered and disciplined, the other disordered, chaotic, and where the disciplining mechanism of the former was sought to be transplanted. Both these sites entail movement – one, the march, the other, the *jattra*. The former marked by military discipline and command, the latter characterized by the spiritual discipline, manifest in the ritualistic enactment of the *jattra*.

The movement emanating from the cantonment and the movement converging at the pilgrim site were mediated by the epidemic movement of cholera. The criss-crossing of these movements will set the scene of interrogation. These two sites, linked as they are by

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[271] Mark Harrison, *Climates and Constitutions: Health Race, Environment and British Imperialism in India 1600-1815*, Delhi: OUP, 1999, p. 2.

[272] Ibid., p. 2.

[273] Ibid., p. 2.

cholera, set the distinctive scene of interrogation with the purpose of understanding the Indian society under colonialism and the strengths and weaknesses of the colonial state.

Needless to say, this chapter shares the rising interest in the cultural context of relationships between state and society. My endeavour here is to qualify this cultural context through the discourse on cholera and the debates around its causality and communicability. After all, scientific, medical and technological interventions are cultural interventions, and science, medicine and technology are potent cultural forces. Both the sites were put to severe scrutiny by the medical men of the age. Significantly, their opinions unravel and illuminate hitherto lesser known facets about the stereotypical categories through which we characterize and understand colonial state and society.

European Soldiers: Constitutions, Mortality and Cholera

Prior to 1700, as the Europeans were located in their secure coastal enclaves, the fear of Indian climate and disease was hardly a matter of grave concern. In a sense, Europe was considered more diseased than India, even though the British were different from the Portuguese as they came from Northern Europe and were not accustomed to the Mediterranean climate as the latter were. But even then the Britishers were "prepared to admit that many parts of India were as salubrious as the temperate climates of Europe"[274] (and) as late as the 1800s, travellers in India insisted that Europeans who maintained a temperate life style were likely to live long and healthy lives in their new abode".[275] As late as the 1870s, Major Julius George Medley, on a recruitment spree to Royal Engineers Institute Chatham, in order to dispel the fear of Indian climate among the British students, sermonized:

> ....yet the climate, with proper precautions and temperate habits, is by no means unfavourable to the European constitution, except in peculiar cases. As a rule, men now return from India looking much the same as their English contemporaries, and those whose minds are well employed and whose bodies get a fair share of exercise, are as healthy as their fellow countrymen whose lot is cast

[274] Mark Harrison, *Climates and Constitutions: Health Race, Environment and British Imperialism in India 1600-1815*, p. 9.

[275] Ibid., p. 9.

> in England or the colonies. Out of eight Engineer officers who left Chatham with me twenty-three years ago to go to India, six are now alive, and five out of the six are strong healthy men. Nor is this at all an exceptional case; indeed when an Anglo-Indian reaches a certain age he seems to live for ever though the popular idea that this is because the Indian sun has dried him up into a mummy is not founded on fact.[276]

A change of life style was definitely needed but the adaptability of the European body was not questioned by Medley, understandably because he was on a mission to entice young engineers to serve in India. Incompatibilities of European body to the tropical climate were not evoked directly, but these were definitely lurking behind his words marked both by skepticism and optimism. Clearly, differences were taken into cognizance, otherwise why was there the exhortation/caution of maintaining a temperate life style? However, other classificatory and explanatory tones of the contemporary age were more straightforward in admitting the difference: "when Europeans urge that they have exposed themselves to the sun for years, and have never felt any evil effects, it is only saying that the losing battle between the sun and their constitution is not yet over, but every day's exposure brings them nearer to the final triumph of their solar adversary."[277] Indian climate in a natural way was understood as "too hot and wet for European tastes".[278] The awe of the tropical climate and the fear of mortality were well documented even in the early encounters of the British.

Gradually, the "exotic representation of the tropics became increasingly common in medical literature".[279] "Tropicality" as a binary opposite had begun to crystallize. W. J Moore who was in the Bombay Medical Service "declined to believe that one class of Europeans in India [is] less mortal than another, or less liable to the endemic diseases of

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[276] Julius George Medley, *India and Indian Engineering: Three Lectures delivered at the Royal Engineers Institute Chatham in July 1872*, London: E & F.N. Spon, 1873, p. 4.

[277] W.J. Moore, *Health in the Tropics or Sanitary Art applied to Europeans in India*, London, 1862, p. 278.

[278] Alfred Crosby, *Ecological Imperialism: The Biological Expansion of Europe 900-1900*, Cambridge University Press, 1986, p. 135.

[279] David Arnold, 'India's Place in the Tropical World 1770-1930' in *Journal of Imperial and Commonwealth Medicine*, 26; 1998, pp. 1-21.

the climate".[280] The Indian climate itself was accorded the status of a disease. Rebuking the unwarranted optimism of many, Moore lamented:

> It is the fashion now in some quarters to declare that the dangers of Indian residence and service have been greatly overrated, and that there is little or nothing of an exceptional character in the climate of India to render it necessary that special inducements should be held out to persuade Europeans to reside therein.[281]

For Moore the death list of victims who fell prey to the climate of the tropics was too stern a fact to be lightly shrugged aside.[282]

The voyagers who had visited India till 1700 did not spend their lifetime in India; moreover, their limited sojourns were confined to the coastal trading spots. Their relatively limited exposure to the Indian environment – often in areas most hospitable to Europeans – also tended to create a more favourable impression of the Indian climate than that recorded by writers, condemned to prolonged residence and having broader and richer experience of India's climatic zones.

But even then there were good many examples of the insalubrity of Indian climatic zones. Sir Renald Martin quotes numerous instances from the writings of older authors showing the general un-healthiness of Calcutta.[283] In addition to this, it is elsewhere stated that, of the troops which Sir Abraham Shipman brought with him to Bombay, in 1662, there remained in 1664 only ninety three out of five hundred. Dr. Fryer, who visited Bombay in 1672, said of the Europeans there, that they remained in Charnel houses. In among five hundred, even less than a hundred survived. Mr. Ives tells us that, at the time of Major Kilpatrick's death, in 1757, only five of the two hundred and fifty soldiers who accompanied him from Madras in August of the previous year survived him. Captain Hamilton, who traded in India between 1688 and 1723, made frequent allusions to the unhealthiness of Europeans, and Dr. John Clarke, who was in Calcutta in 1768, records that, out of a hundred and eighty nine cases of fever treated in ships, only eighty-four

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[280] W.J. Moore, *Health in the Tropics or Sanitary Art applied to Europeans in India*, p. 276.

[281] Ibid., p. 277.

[282] Ibid., p. 277.

[283] Ibid., p. 49.

recovered![284] If the above facts are juxtaposed with the mortality rates prevailing among European soldiers around the mid 19th century, the alienality and dread attached to the conceptualisation of 'tropics' becomes comprehensable.

The death-rate of European soldiers in India, as nearly as could be ascertained from the then available data, was 62.45 annually per thousand, excluding all sudden casualties out of hospitals, as suicides, accidents and soldiers killed in action.[285] That mortality from causes other than disease was negligible gets revealed by the fact that the "annual rate of mortality to effective strength, among European corps in India, from 1838 to 1856 was, according to Sir A. Tulloch, 65.6 per 1000 of strength".[286] More demonstrable and picturesque was the rate of disappearance of the European army as calculated by Dr. Ewart. He calculated the time span in which the entire European army in India putatively disappeared as per the then prevailing mortality rates. In Bengal the European army had the shortest time span for disappearance and in Madras it had the longest.

> In Bengal, in about every 10 ½ years!
> In Bombay, in about every 13 $^{1}/_{4}$ years!
> In Madras, in about every 17 years!
> For all India it was about 13 ½ years! [287]

That is why, in order to understand 'otherness' premised upon tropicality, "we need to understand the tropics as a conceptual, and not just as a physical space".[288] "Modern tropical medicine has similarly never been satisfied with a purely geographical definition. Manson admitted that the term tropical disease was 'more convenient than accurate', and continued that "if by ***Tropical diseases*** (emphasis added), he meant diseases peculiar to, and confined to the tropics, then half a dozen pages might have sufficed for their

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[284] W.J. Moore, *Health in the Tropics or Sanitary Art applied to Europeans in India*, pp. 49 to 51.

[285] Ibid., pp. 49 to 51, but in actuality from Chevas, Indian Annual Med. Science," Vol. X, P 633, (date not mentioned in the foot notes of Moore's book).

[286] Ibid., pp. 49 to 51, but in actuality from 'Report of the Army Sanitary Commission' pp. 12 (date not mentioned in the foot notes of Moore's book).

[287] Ibid., but in actuality from "Vital Statistics of the Anglo Indian Army" (date not mentioned in the foot notes of Moore's book).

[288] David Arnold, (ed.), *Warm Climates and Western Medicine: The Emergence of Tropical Medicine, 1500-1900*, Amsterdam: Rodopi, 1996, p. 6.

description."[289] The conceptual implications inherent in the definition of 'tropics' become glaringly evident when 'death rates per 10,000 per annum at soldiers age' in India is contrasted for the same in Britain, as shown in the following table given by Dr. Guy in his study 'On the Mortality of the British Army.' [290]

Table [291]

Death-Rate per 10,000 per annum at the Soldiers' Ages

London Fire Brigade	70
Metropolitan Police	76
England, Healthy Districts	77
Agricultural Labours	80
Outdoor Trades in Towns	85
Navy Home Stations	88
City Police	89
England Generally	92
House-hold Cavalry	110
Twenty Four Large Towns	119
Manchester	124
Dragon Guards	133
Infantry of the Line	187
Foot Guards	204
West Indies	**625**
India	**633**

[289] P.H. Manson-Bahr and A. Alcock, *The Life and Work of Sir Patrick Manson*, London: Cassell, 1927, pp .208-9.

[290] W. J. Moore, *Health in the Tropics or Sanitary Art applied to Europeans in India*, p. 51, (In actuality from Guy's *On Mortality of the British Army*).

[291] Ibid., p. 51, (In actuality from Guy's *On Mortality of the British Army*).

The loss was enormous. Cholera had its fair share and the cause of the disease was attributed to the effects of climate on the British soldiers. Bengal, in particular, was famous for cholera endemicity. In 1861, cholera wreaked havoc in the North Western provinces and Punjab. Hardly a cantonment escaped from its virulence. "Altogether, in the North Western provinces and in the Punjab, there were 1,929 cases of cholera and 1,231 deaths, among the men, women and children of the European troops, during the prevalence of the epidemic from June to September."[292] Mean Meer, the military cantonment of Lahore, almost acquired the status of 'cholera cantonment' where

> out of a force comprising 2,452 men, women and children, 880 were attacked by cholera, and 535 died in the space of little more than a month. In the records of destructive epidemics there can hardly be found a more lamentable history than this.[293]

There were many lamentable occasions in 1861. The 51st Regiment, in the course of fifteen days, lost one fifth of its whole strength, including its commanding officer, while one wing of the 9th Regiment, at the same time, lost nearly one fourth of its whole number. The commanding general of the latter did every thing to cheer the spirits of his men. He ordered the bands to play, but, alas, the bandsmen were numbered among the dead! [294]

Let us travel back to the earlier centuries to grasp the changing character, composition and role of the European soldiers stationed in India and to understand its implications for the sanitary reforms initiated within the cantonments in the mid nineteenth century.

European life in the sixteenth century was marked by uncertainities. Portuguese sailors, fleeing the plague in Lisbon, in 1506, came to view the East Indies as a comparative heaven for good health. The plague epidemic of Lisbon in 1569-70 swallowed almost half of the city's population. For these sailors, the discomforts of a tropical climate were teasing but not annihilating. So India's climate did not produce such contrast as the

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[292] *Second and Third Sections of the Report of the Commissioners appointed to inquire into the Cholera Epidemic of 1861 in Northern India.* Pub. in 1864 (publisher not mentioned) p. 4.

[293] Ibid., p. 5.

[294] W.J. M[illigan], *Health in the Tropics or Sanitary Art applied to Europeans in India*, p. 57, (In actuality from Home News, Oct 18th 1861).

later 18th and 19th centuries British traders and administrators depicted. After all, Goa for the Portuguese sailors was the 'Golden Goa'. Not surprisingly, therefore, the writer of the very first European medical treatise in India, Garcia d'orta, had not much to say about the effects of climate on European bodies. Garcia d'orta, who lived in India for thirty-six years, made no derogatory remarks about the Indian environment anywhere in his treatise.

India was painted as fabulous, often breathtaking, by the travel writers of the sixteenth and seventeenth centuries. Differences existed but, to them, it was not more perilous than the European countries. These were the voyagers of the Vasco da Gama era, many of whom were volunteer voyagers or fortune seekers in their own right. They were not only leaders and flag bearers of trade and commerce, but also carriers of faith. Commerce and Christianity relied on their spirited enterprise. The desire for the procurement of gold and spread of Christianity were their prime movers. They had to compete with, and transcend the limits set by the Moors. It is not as if they did not encounter disease and death. "Cholera was a major killer in Goa. There were outbreaks in the town in the years 1543, 1563, 1567, 1570, 1580, 1588, 1610, 1635, 1639, 1670 and 1680. The first one was the worst. We are told that of those struck by it, only one in ten survived."[295] The Italian merchant Sasseti refers to cholera (*mordaxi*) prevalent in Cochin in 1580s:

> there is current here a certain disease which kills a person in just 24 hours and which is called *mordari*, which is a revulsion of the stomach and of the entire body which rejects itself; all the humours quit the body and the blood too, so that one dies.[296]

"The Venetian quasi-doctor Manucci later in the seventeenth century noted that *mort-de-Chien*, or cholera, was the main killer describing it as colic of the bowels with vomiting and laxity."[297]

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[295] M.N. Pearson. 'First Contacts between Indian and European Medical Systems: Goa in the 16th century' in David Arnold (ed.), *Warm Climates and Western Medicine: The Emergence of Tropical medicine, 1500-1900.* Amsterdam: Rodopi, 1996, p. 24.

[296] Quoted in John Carreia-Afonso, 'On the Fourth Centenary of Filippo Sasseti (1540-1588): Scientific observations from Cochin', Paper presented at the Fifth International Seminar on Indo-Portuguese History, Cochin, January 1989, and published in *Indica* (26), 1989, pp. 15-24.

[297] Niccolao Manuci, *Storia do Mogor, or Mughal India*, 4 Volumes, II, Calcutta editions, Indian, 1966-67, p. 157.

So 'Golden Goa' had its own share of high mortality rate and as a contributor to high mortality rate, cholera had its own legendary share. Again, it was not that Portuguese sailors did not suffer. Many suffered and died but they were generally of the view that all countries were dangerous to some degree or the other, that these were the natural perils of their profession and enterprise. They sought consolation in their Christian worldview and congratulated themselves as carriers of the gospel.

Things were very different in mid 19th century British India. It was the incumbent duty of the colonial state to keep its soldiers in proper health. These soldiers were often recruited from the lower rungs or the working class of British society (more particularly Irish society). They were career soldiers and were neither volunteer voyagers nor carriers of faith. They had come to serve the British Indian government for the pay and perks provided by the state. This incumbency factor, to save the 'embattled minority' from the virulence of diseases like cholera which defied scientific comprehension, made the entire colonization process an anxiety ridden one.

As the frequency and intensity of the commercial contact grew, as the role of the army became more varied in order to effect consolidation, and as the number of British soldiers increased after the 1857 mutiny, to maintain a favourable ratio between European and native troops, longer residence and travel in the hinterland became more frequent and widespread on this large sub-continent. With the penetration to inner lands, climatic discourse in India acquired a specificity as the environmental encounter was now more frontal, direct and prolonged. Both the vagaries and varieties of Indian climate and their relationships to diseases like cholera were being recognised in a more systematic manner. The linkages of meteorological cycles with cycles of epidemics like cholera were sought to be systematically charted out. Cholera was broadly contextualized by the seasons of India. Linkages between climatic zones and endemic areas of cholera were probed into. James Jameson had already shown the way. Jameson had tried to link atmospheric disturbances with cholera in his description of the 1817 cholera epidemic which emanated from Jessore in Bengal, but for him 'atmospheric disturbances' were secondary, assisting, and

accentuating factors, not the main cause of the then new and entirely 'inexplicable' disease. [298]

Nonetheless, generally in India till the third quarter of the 19th century, the air, the soil, the water (should be understood more as 'rain') as climatic parameters were used to define disease and a tendency towards dividing the hinterland into different climatic zones can be seen prevalent. These climatic parameters (air, water, soil, and places) sat compatibly with the dominant conceptualisation of health and its relationship with climate because health was seen then, through the humoral conception of the human body. It existed as the dominant explanatory mode before the advent of the germ theory and the emergence of pathological anatomy within the medical discourse.

From the humoral standpoint it became easier to draw parallels between the environmental or climatic conditions, such as heat and moisture and qualities within the body. This humoral theory had an ancient Greek heritage. Health was perceived in Europe to be widely linked to an array of topographical and environmental factors. The elevation of the ground, the condition of the soil, the humidity of the atmosphere, and above all the extent of marshes and wet ground determined the occurrence of epidemic diseases. J. M. Cuningham the longest serving and most influential Sanitary Commissioner of India, believed that cholera was probably caused by an 'arial miasma' or generated by some obscure condition of the air or soil or possibly both together.[299] The environmental theory of disease within the larger climatic paradigm marked out India, with its unfamiliar plant and animal life, its excessive heat and numerous 'miasmatic' fluxs, as an exotic and dangerous space. "Of course, in climate, as in so much else, what the British called 'India' was in fact shared by their experience of Bengal, the area they knew best."[300] Away from the norms of north-western Europe, the British here were faced with marshy humid Bengal, with its presumably disease generating "miasma" which most fully made the British realize the ideal of a tropical climate.

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[298] David Arnold. *The New Cambridge History of India III. 5 Science, Technology and Medicine in Colonial India*, Cambridge: Cambridge University Press, 2000, p. 82.

[299] Ibid., p. 83.

[300] Thomas R. Metcalf. *Ideologies of the Raj, The New Cambridge History of India III.4*. Cambridge University Press, 1994, p. 171.

Tropical climates, marked as they were by the 'excess' of heat and humidity, brought with them not merely discomfort and disease, but, in British thinking, an enduring degeneration of the mind and body. "Tropics" not only meant lethargy but also the triumph of despotism and fatalism. India's fatalism and superstition were shaped by the "Tropics". Hence, the tropics as a signifier of difference had crystallized. The "climatic inferior" was to be civilized and ruled by the superior from the temperate. This was the basic 'premise of otherness'. Precisely upon this "premise of otherness" was predicated the anxiety of the 'loss of the self'. It was easier to categorize the 'other' as inferior but far more difficult to demonstrate one's own superiority in the wake of differential mortality rates of diseases in general and cholera in particular. European soldiers suffered a great deal more than native troops. Besides, the randomness of cholera virulence and the inability of Western medicine to get a clue of this 'more than ordinarily mysterious disease', and to have a prophylactic cure for it, mocked at and belittled their idea to tame, civilize and rule the 'inferior other'.

The medical returns of European troops serving in the Bengal Presidency revealed that:

> the average annual number of admissions for cholera between 1817 and 1854 were 29 per 1,000 men, and the average annual number of deaths were 10 per 1000 men. The average annual number of admissions for cholera among the European troops in the Madras Presidency, between 1829 and 1852, were 20 per 1000 men, and the number of deaths, 7 per 1000. Among the European troops in the Bombay Presidency, between 1818 and 1854, the average annual number of admissions for cholera per 1,000 men were 26, and the number of deaths per 1000 were 9, while among the Native troops for the same period the numbers of admissions and deaths were respectively 10 and 3 per 1000. [301]

Conclusively, in India, the liability of European soldiers to the attack of cholera was far greater than that of the native troops.[302] This was not only true of the cholera mortality rate but was also true for other diseases. A comparative analysis of mortality rates revealed that the

> proportion which the number of deaths from cholera among the European soldiers bears to the number of deaths from the same cause among the natives, does not differ in any important degree from the proportion which holds good for the

[301] *Second and Third Sections of the Report of the Commissioners appointed to inquire into the Cholera Epidemic of 1861 in Northern India*, 1864, (publication not mentioned) p. 209.

[302] Ibid., p. 209.

deaths from all causes. If the European soldier is five times more liable to cholera than the sepoy, the same is true for other diseases also.[303]

The celebrated randomness of cholera showed differential impact of its virulence among various branches of the army as well. Cholera had special lust for the most formidable branch – the infantry. The infantry is generally regarded as the queen of all branches of the army. It is the branch that leads the forward march and captures posts, while the artillery and other branches support it. Moreover, the infantry was the branch which had the most prominent role in acquiring newer territories and quelling rebellion. A great number of celebrated generals came from this branch. Cholera chose its enemy well. The infantry suffered far more severely from cholera virulence than the other branches of the service. The total average mortality in the infantry was almost double than that which occurred in the cavalry and Bengal artillery, and almost three times more than that in the Royal artillery. This was a fact of great importance.[304] It is not incidental that most sanitary reports resorted to military vocabulary while narrating epidemics, be it cholera or malaria. The famous malariologist Sir Ronald Ross, emphasizing the role of sanitation, wrote as late as 1910 that: "Sanitation is a war. It requires not only money and efforts, but also thought, organization and discipline."[305]

Until the 1880s, the weaponry to raise a war against cholera epidemic was chiefly lacking with no major breakthroughs. The entire medical world was busy following conjectures regarding its causality and communicability. The various cholera reports evaded the purely medical question of a prophylactic for cholera. In fact, many of the Sanitary Commissioners, in the 1870s, were frank enough to admit that:

almost every Report of every Medical officer tells the same story of hopeless failure in the attempt to combat the disease in its advanced stages. Almost every remedy, old and new, that has ever seemed to hold out a promise of success has been tried during the late epidemic, (1861). Not only did every remedy appear useless, but we have found a strong doubt prevailing in the minds of some of the most thoroughly competent of Medical officers, whether the practical result of the

[303] *Second and Third Sections of the Report of the Commissioners appointed to inquire into the Cholera Epidemic of 1861 in Northern India*, 1864, (publication not mentioned), p. 212.

[304] Ibid., p. 216.

[305] Sir Ronald Ross quoted in Harrison, *Mosquitoes, Malaria and Man: A History of Hostilities since 1880*, London, 1978, p. 2.

existing systems of treatment has not sometimes been a positive aggravation of the mortality. [306]

Dr. Mountjoy was almost sarcastically frank about the uselessness of the various conjectural curative treatments which ended in "so enormous a proportion of deaths to cases".[307] He hardly considered the prevalent methods "as curative at all"[308] unless it can be shown, according to him, "that Nature, if left to herself, would fail still more completely."[309] Conceding to the self defeat of his own profession with a sardonic humour, a competent medical officer of the age confessed that: "In many instances, (he) imagines that the patient dies of the doctor rather than the disease."[310] Rationalising his pessimism, he interrogatively elaborated:

> so long as we know nothing of the nature of the disease, and so long as we have the most opposite modes of treatment, vaunted in their turns as best, how can it be otherwise?[311]

A sense of pessimism and hopelessness was not just shared by the medical men in the colony alone, the metropole was also groping in the dark. No doubt, the metropole was pursuing the sanitary agenda as a preventive measure against cholera in an ardently dogged manner and with favourable results, but still its medical men, unable to find a prophylactic breakthrough, were sometimes as pessimistic as their professional friends in the colony. "If," wrote Dr. Elliotson, regarding cholera in England,

> all the patients had been let alone, the mortality would have been much the same as it has been. We are not in the least more advanced than we were when the first case of cholera occurred.[312]

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[306] *Second and Third Sections of the Report of Commissioners appointed to inquire into the Cholera epidemic of 1861 in Northern India,* 1864, (publication not mentioned) p. 251.

[307] Ibid., p. 252.

[308] Ibid., p. 252.

[309] Ibid., p. 252.

[310] Ibid., p. 252.

[311] Ibid., p. 252.

[312] Ibid., p. 252.

In contrast to this, many medical men in the colony exhibited numerous pretensions, as if a prophylactic cure for cholera was already in existence. Many army generals reiterated such utterances merely to instill confidence among the soldiers. Deputy Inspector-General Murray, in his *Report on Epidemic Cholera in Central India in 1860*, ascribes the greatest importance to the exhibition of appropriate remedies at an early period in this disease, and states that "a cholera pill was ordered to be given in the barracks to every man whose bowels were open during the night".[313] Clearly, the pill which was ordered to be distributed was a pill against diarrhoea and not against cholera as such. Before the characteristic symptoms of cholera became manifested in epidemic proportions, it was usual for diarrhoea and dysentery to precede it. So to camouflage the impending danger of the cholera epidemic, pills against diarrhoea were given as a confidence building exercise. Subsequently, these pills were construed by the general soldiery as a prophylactic cure for cholera.

However, the emergence of cholera epidemics sometimes posed new factors for bafflement before the medical men, because sometimes the preceding symptoms changed. The outbreak of epidemic was not always preceded by an unusual amount of diarrhoea. "In 1861, at Lahore, Amritsar and Agra and several other places, cholera was accompanied or followed by an excessive amount of intermittent fever."[314] Nothing was clearly known about the possible relationship that may have existed between intermittent fever and cholera. In Northern India, cholera virulence was at its peak during the rainy season when both diarrhoea and fever were most common. When cholera was to be preceded by diarrhoea, and when by fever, and why it was so, was not exactly known. Such were the mysteries around cholera.

In general, the pessimism and gloom fostered by cholera prevailed among the British. "Tropicality", in the sense of specificities peculiar to the Indian climate but devoid of biologically determined rigid racialism, remained a more fluid, flexible concept. Nevertheless, within the climatic paradigm, it was capable of articulating the 'otherness' of tropics vis-à-vis the temperate zone from where the British came, and the 'British

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[313] W. J. Moore, *Health in the Tropics or Sanitary Art applied to Europeans in India*, p. 233.

[314] *Second and Third Sections of the Report of Commissioners appointed to inquire into the Cholera Epidemic of 1861 in Northern India*, 1864, (publication not mentioned), p. 252.

superiority' was premised on the superior climatic assumption about the temperate zone. It was understood that atmospheric and other climatic parameters exerted a specific but more powerful influence in the tropics than in temperate latitudes.

In the urge for acclimatisation, in order to counteract and surpass such influences, many normative prescriptions came to be delineated for the preservation of the English bodies in hot climate by the medical men. The onus was on the English body to tune itself toward acclimatisation. The agenda was set thus:

> Habit, food and climate, exercise indisputable influence upon the human system, both in a healthy and diseased state; and it is equally, important to pathology and physiology, to determine the modification which they induce and the varieties that may be attributed to their operation, in a country so different as India. [315]

Intemperance resulting from alcohol and British dietary habits were put to scrutiny. Even the ways of dressing were to be tuned according to the dictates of the climate. Military nutrition became the focus. Florence Nightingale described as 'extraordinary' the practice of giving soldiers in India the same diet (regardless of the Indian season) as in Britain.[316] Injunctions regarding bathing and ablution in cold water were prescribed because these mitigated the effects of the hot climate. Cold bath as a precaution against 'chill' was also prescribed. 'Chill' – a sudden change in temperature (diurnal or seasonal), was construed by some medical men as synonymous with or as a symptom of fever, flux and cholera. [317]

Way back in the first decade of the 19th century, to prepare the English youth to encounter the East or the Orient, James Frobes, citing himself as an example of an ideal acclimatizer, had prescribed "Early rising, the cold bath, a morning walk, temperate meals and evening walk (as) the best rules of preserving health in India."[318] Frobes was

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[315] *Transaction Medical and Physical Society of Calcutta (1825)*, pp. (iii) [as quoted in Mark Harrison, *Climates and Constitutions Health, Race, Environment and British Imperialism in India 1600 – 1815*, OUP, 1999, p. 80].

[316] *Florence Nightingale, Observations* pp. 37 [as quoted in Mark Harrison, *Public Health in British India: Anglo-Indian preventive medicine 1959-1914*, Cambridge University Press, 1994, p. 62].

[317] Mark Harrison, *Climates and Constitutions: Health, Race, Environment and British Imperialism in India, 1600-1850*, Delhi: OUP, 1999, p. 85.

[318] James Forbes, *Oriental Memoirs (1813)*, Vol 1, p. 412.

persuading the English youth to tune themselves according to the climatic dictates of India. Individual reconciliation with the Indian climate was possible (as in the case of Frobes). But there were to crop up obvious difficulties if these were to be generalized for all British soldiers. Moreover, military duties did not permit such luxuries. What conjectural prescriptions were to be held out for a baffling disease like cholera? Had the causality and transmissibility of the disease been known, a specific attempt would have been made.

There is a contradiction between the injunctions of health authorities (like Frobes) and the mental circumstance of any young British soldier in the colony. This contradiction arose from certain essentialized perceptions (very marked in Frobes) addressed to an individual patient whose circumstances were very unlike that of a soldier in service in the first half of the 19th century. For instance, the ideal routine of Frobes was simply not practical for soldiers in the extraordinary situation of rebellions and wars, and the entire first half of the 19th century was marked by frequent wars and rebellions. A good number of these wars were mediated by the outbreaks of cholera. White soldiers engaged in quelling the mutiny of 1857 had to bear the brunt of cholera. "Cholera appeared among our troops engaged against the mutinous native army before Delhi, from June to September 1857, the Lucknow garrison also suffered to a slight extent from cholera in 1857."[319]

In the aftermath of the mutiny, when the number of European soldiers had to be increased, an adaptation by European soldiers to the essentialized Indian way of life could lead to serious loss of the 'essential difference', which was the lynchpin, holding the highly unequal ratio of Europeans to Indian soldiers in place. Cholera was seen as one of the prime unsettlers of this lynchpin. An acculturation fostered by the acclimatisation process geared towards the adaptability to the tropical climate, if leading to the erosion of the manifest European distinctions in dress, food habits and general way of life, would have upset this lynchpin.

In the pre modern nature of interaction, as in the case of the Portuguese, acculturation could flourish as it did among them.[320] Yet, the British in the colonial era

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[319] C. Macnamara, *A History of Asiatic Cholera,* London: Macmillan & Co., 1876.

[320] M.N. Pearson. 'First Contacts between Indian and European Medical Systems: Goa in the Sixteenth century' in David Arnold (ed.) *Warm Climates and Western Medicine: The Emergence of Tropical medicine 1500-1900,* Amsterdam: Rodopi. 1996, p. 26.

were not to allow the possibility of such a process. With hindsight, they saw the Portuguese example as a negative one, as in their perception "not one descendant of the Portuguese can be found without admixture of native blood". [321]

The enactors of the 'policy of distinction' in the army were not to allow the prescription of acculturation to any considerable extent. The preservation of identity for the numerically small white officers and soldiers amidst the numerically preponderant native soldiers was crucial for the colonial state. Cholera mortality and morbidity rates, which remained high for white soldiers, were an unsettling reality. These sat uncomfortably with the mechanism of social distancing adopted by the British army. The continuing vulnerability of British troops to cholera became more and more demonstrable.

> During the cholera epidemic which swept northern India in 1867, European troops experienced a cholera mortality rate of almost 14 per 1000, where as Indian troops died at a far lower rate of 3 per 1000. In fact, the death rate from all diseases except fever was lower among Indian troops than among Europeans.[322]

Five years later another cholera epidemic raged all over India. According to the Sanitary Commission Report of 1867:

> Epidemic of cholera has swept over Northern India. Nor has the disease been confined to this portion. In the South, also, where it seemed to be dying out at the close of 1871, it continued during 1872, and although its severity in this direction was more circumscribed than it had been in the year previous, the mortality which it occasioned was but little less.[323]

The North Western Provinces experienced the highest number of deaths.[324] But, "In Bengal proper, cholera showed a greatly increased activity not only in the regions, which comprise the endemic area, but also in those which lie beyond it. Altogether, among the people of British India during the past year, more than 165,000 death were ascribed to this one cause." [325]

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[321] W. J. Moore, *Health in the Tropics or Sanitary Art applied to Europeans in India*, p. 280.

[322] *Sanitary Commission Report with Government of India (1867).*

[323] Ibid.

[324] Ibid.

[325] J. M. Cuningham, *Annual Sanitary Report for 1872,* (Section I Report on the Cholera Epidemic of 1872 in Northern India).

THE DEATHS REGISTERED DUE TO CHOLERA IN 1872[326]	
BENGAL PROPER	46901
NORTH WESTERN PROVINCES	50565
OUDH	26566
PUNJAB	8727
CENTRAL PROVINCES	1592
BERAR	1578
BOMBAY	15642
MADRAS	13247
BRITISH BURMA	640
TOTAL	**165458**

By Cuningham's own confession:

> there is every reason to believe that this number falls very short of the truth. In the European army of India there were 888 cases among men, women and children, of which no less than 615 were fatal. But 817 of these cases and 559 of deaths occurred in that portion of the army which occupied the Bengal Presidency - a mortality all the more appalling in that it was in the main confined within two months of the year.[327]

Clearly, of the total number of cases of cholera (i.e. 92 percent) in the European army, almost 62.9 ~ 63 percent were Bengal specific. The horror of this death dance was all the more morally shattering because the time span had been merely two months and women and children suffered more deaths. Cuningham further noted that:

> In the European army in India, out of the strength of 77, 235, including men women and children, there were 888 cases of cholera of which 615 were fatal. Out of 3,830 women who were the kith and kin of Bengal army men, there were 90 cases of cholera admitted, out which 61 died; out of the143 cases of cholera among children 109 died.[328]

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[326] Ibid., (Section I Report on the Cholera Epidemic of 1872 in Northern India).

[327] Ibid.

[328] Ibid.

It was on such pestilentiality that the fame of Calcutta and the nightmare of the British rested upon. Sanitary reports, in particular, recorded the deaths among European children due to convulsions, diarrhoea and debility that preceded the cholera epidemic. The high rate of women and children mortality impeded the Government's plan to entice able men to various services in India. It made service in India a poor choice, and without manpower how were the British to realize the imperial vision of making India a permanent settler colony?

The Cholera debate:

With the rise of 'biologically rooted pathological anatomy' and with the advent of the 'germ theory for disease causation', the earlier climatic paradigm of medical discourse suffered partial ruptures and paved the way for the racial turn to the understanding of disease and body. A few medical men and sanitarians, under the influence of these new theories, started emphasizing the biologically innate difference of the British constitution vis-à-vis the native body. Acclimatisation for them was an impossibility. Prejudice and superiority embodied in the 'otherness' became more virulent with ruptures within the climatic paradigm. But as the mortality and morbidity rates due to cholera and other diseases remained high among European soldiers, the contempt for the landscape and its inhabitants irredeemably increased. The racial turn within the medical discourse accentuated the anxiety of 'otherness'. With the failure of the acclimatization theory, the colonization of India itself was questioned:

> practically all our soldiers who, by length of service, are qualified for pension, are by the same period of servitude, by disease, or by degeneration from residence in the tropics became unfitted for the life of a Colonist, either on mountain ranges or elsewhere.[329]

Medicine was called upon to give its opinion "as to the qualifications of the man, for the rough work of a colonist".[330] However, for medicine, cholera remained a formidable

[329] W. J. Moore. *Health in the Tropics or Sanitary Art applied to Europeans in India*, p. 274.

[330] Ibid., p. 275.

challenge and even if with slow but certain deterioration, the British constitution somehow pulled on, then "acute dysentery, epidemic cholera, ardent fever or sun stroke (would) some day suddenly destroy them".[331] Even if one escaped these "insidious malarious diseases", *Cachexia loci* or *Splenic leucocythaemia* sooner or later would take its toll. Those among the British who questioned the colonization process vehemently argued that:

> there is not a great grandchild of these pensioners (colonists) retaining their European characteristics; an infusion of native blood is essential to the continuance of the species, as the barrier once broken down, the remote descendants of an European ancestor become rapidly feeble, astute, passionate, and indolent, as any of the darker races around them.[332]

Cholera with its differential impact had already inverted the superiority embodied in 'otherness.' Cholera killed people in Britain also, but there the English body was in its superior sanitized temperate land. In 'Tropical India,' for "the white man or his offspring there was no such thing as acclimatisation,"[333] and without the possibility of acclimatisation in British perception, cholera fatality acquired a singularly distinctive character – it was the 'Asiatic cholera.' "Not a single reliable fact has been produced to show that our race can be continued even through a few generation without Asiatic mixture."[334] The fear of 'Asiatic cholera' and 'Asiatic mixture' merged to accentuate the anxieties of the colonization process. Anxiety, as legitimate psychological state, was empirically grounded in the disease mortality rates of the Europeans in the tropics. Tropicality did not spare even the lesser species. In Henry Marshall's opinion, "even the domestic animals of colder climates, dogs, sheep, cows, horses, all die or deteriorate after removal to a tropical region. Hence, colonization of the plains either by military pensioners or otherwise is impossible."[335] In the context of the fear psychosis engendered by the merger of 'Asiatic cholera' and 'Asiatic mixture', it should be understood that cholera causality in India till 1860 was predominantly understood within the climatic paradigm.

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[331] W. J. Moore, *Health in the Tropics or Sanitary Art applied to Europeans in India*, p. 277.

[332] Ibid., p. 277.

[333] Ibid., p. 277.

[334] Ibid., p. 280.

[335] Ibid., p. 280.

James Bryden, an Edinburgh graduate who had served as a Civil Surgeon in Bengal, stuck to his position that cholera was an air-borne disease and not water-borne. In his opinion, an unidentified 'pathogenic organism' was transported by monsoonal air currents beyond the endemic area and was responsible for the epidemic. Well within the climatic paradigm and under the overarching influence of the humoral theory of disease and his own obsession with statistical technique and analysis, Bryden sought to write a natural history of cholera in India which was to be different from Europe because the transmitting agency was different in these countries. He accorded an epidemiologically unique status to India.[336] Bryden had modeled his theory on William Farr's understanding of the epidemic cholera in England. "Farr in 1839 had made a number of prophetic deductions about the course of epidemics from epidemiological data."[337] Bryden "adopted Farr's Liebigian nosology and his statistical methods, and shared his conviction that all physical phenomena were essentially law abiding and capable of being predicted."[338]

For Bryden, and later for J. M. Cuningham who inherited Bryden's legacy, there existed some vague 'pathogenic organism' or the 'seed' or 'cholera poison' or an invisible 'force' which was present all over i.e. was endemic, spread here and there, but caused no epidemic. Epidemics occurred only when 'seasonal fluctuation' or 'atmospheric vicissitudes' or any other local climatic conditions accelerated this 'imaginary something' in epidemic proportions. The 'seed' or loosely the 'contagion' was not the main factor as it was always present. The governing factor was the local monsoonal atmospheric vicissitudes. It was "***the epidemic influence*** (emphasis added), the cause of the diseases in some places so strong as to produce a violent outbreak, in others so weak that it produces but a few isolated cases or is only shadowed forth in the form of prevalent diarrhoea."[339] The 'seed' or 'poison' or ***"the contagion is a superadded element which cannot be made***

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[336] Mark Harrison, *Public Health in British India: Anglo-Indian Preventive Medicine 1859-1914*, Cambridge University Press, 1994, pp. 101-102.

[337] Mark Harrison, 'A Question of Locality: The Identity of Cholera in British India 1860-1890' in David Arnold (ed.) *Warm Climates and Western Medicine: The Emergence of Tropical Medicine, 1500-1900*, Amsterdam: Rodopi, 1996, p. 136.

[338] Ibid., p.136.

[339] J. M. Cuningham, *Cholera: What can the state do to prevent it?* Calcutta, 1884, p. 88.

to accord with the admitted facts of epidemic influence (emphasis added)."[340] In Cuningham's view, no one knew what the 'poison' or the 'seed' was, but one was sure of the power of the 'epidemic influence.' This was loosely Cuningham's anti-contagionist, localist or atmospheric theory of cholera.

As doubts were cast about a known 'contagion', Cuningham's anti-contagionist standpoint shrugged aside the 'water-borne theory' proposed by John Snow, which had served as the premise for sanitary agenda in England, and dismissed the role of human agency in the spread of the then obscure 'contagion'. Cuningham believed that "cholera was probably caused by some obscure condition of the air or soil or possibly both together".[341] For Bryden, "The highways by which cholera travels in this country, are ariel highways, and not routes of human communication."[342] Farr's was the nearest influence on Bryden and Cuningham, but there were many in England in the first quarter of the 19th century who were more or less nearer to the 'localist atmospheric disturbances theory.' In this regard, James Jameson and Morehead's views also served as a legacy to Bryden and Cuningham and they fostered the belief that 'India was epidemiologically unique'. With almost total acceptance of Snow's water-borne theory in England, a few sanitarians and medical men in the colony also started questioning the 'ariel miasma' theory. With the advent of the 'germ theory' and the 'contagion theory', the medical discourse was gradually coming out of the climatic paradigm and the role of human agency as the carrier of the disease causing germ was being recognized.

In the metropole the climatic or environmental explanations were abandoned after the 1860s. Even though the exact cholera causing germ had not yet been detected, the contagionists,

> assumed the existence of a specific cholera virus, and asserted the doctrine of human intercourse as the medium of its transportation and dissemination from place to place, not only within the limits of India, but also from India to other parts of the Eastern world. This theory asserted that some part of India is the native seat of the origin and the prime centre of the diffusion of cholera, and that

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[340] J. M. Cuningham, *Cholera: What can the state do to prevent it?* p. 88.

[341] David Arnold, *The New Cambridge History of India III.5, Science, Technology and Medicine in Colonial India*, Cambridge: Cambridge University Press, 2000, p. 83.

[342] James L. Bryden, *Epidemic Cholera in Bengal Presidency*, Calcutta, 1869, pp.1-2, 243.

> this diffusion of cholera is effected by human agency, either in the bodies of individuals who have been exposed to the influence of the disease whether personally affected by it or not-or articles of their clothing or baggage or merchandise, under certain conditions of their contamination by the material of cholera discharges.[343]

This theory was adopted by the special Commission on cholera in 1863[344] and "later again, the International Sanitary Congress held at Constantinopole accorded the full weight of their authority in support of this (contagionist theory)".[345]

In contrast, the dominant stand taken in India under the leadership of Cuningham was anti-contagionist. Cuningham was in India for thirty-three years out which for twenty years he was associated with the Sanitary Department and his influence was pervasive. Nonetheless, many sanitarians and medical men in India who wanted to tune the preventive measures against cholera in a more specific direction took their cue from the internationally accepted water-borne theory from a contagionist standpoint. A. C. C. De Renzy, the Sanitary commissioner of Bengal, S. C. Townsend, the Sanitary commissioner of the Central Provinces and Francis Macnamara, professor of chemistry at the Calcutta Medical College took a by and large contagionist standpoint. Some of the medical men like Dr. G. S. Beatson were contingent-contagionist.

These categorizations are not rigid and watertight because on some specific aspect of the preventive measures against cholera the medical men sometimes took an overlapping stance and sometimes a diametrically opposite stance. As discussed in the previous chapter 'quarantine' as a preventive measure was the most controversial issue. But as far as cholera causality is concerned, this categorization is sustainable more so because these three, groups particularly the first two, had very different perceptions about sanitary intervention.

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[343] H. W. Bellew, *The History of Cholera in India, from 1862-1881 being a descriptive and statistical account of the Disease as derived from the published official reports of the several provincial Governments during that period AND mainly in illustration of the relation between cholera activity and climatic conditions, Together with original observations on the causes and nature of cholera,* London: Trubner & Co., Ludgate Hill. 1885, pp. 6-7

[344] Ibid., pp. 6-7.

[345] Ibid., pp. 6-7.

As these theoretical debates around cholera characterized the 1870s, "cholera had already killed fifteen million people in India"[346] and, as has been shown, it had a severe impact upon European troops in India. To quell this swelling crisis in the light of the question mark put on the colonization process in India, as an alternative mechanism and as a circumventing measure, a fixed proportion of the European soldiers were to be located in the hills on rotation basis. The railways were to prove helpful in this relocation of troops.

This step was to become all the more necessary in order to ease out the prevailing sense of pessimism and meloncholia fostered by the impossibility of the colonization of India. It was thought necessary to relocate a proportion of troops on the hills where British life could be replicated and recreated as in temperate England. After all, the achievements of a hundred years could not be allowed to lapse so easily; the colonization debate was to be kept an open ended debate. With scepticism it was thought that "a healthy and vigorous European stock (could) be propagated and maintained in the mountain climates of India".[347] Backie, before the select committee which sat to discuss the Indian colonization issues, had no doubt about the efficacy of hill cantonments as an alternative defence mechanism to preserve white soldiers' death, "a race of persons well off in life would be continued on the hills".[348]

However, to make the 'race of persons well off' even on the hills, sanitary measures were to be adopted, and it was even pointed out by Moore "that sanitation in its broadest sense is more required in the climate of tropical mountain ranges than in any other known locality".[349] For the cantonments situated in the plains, it was to be ***the measure*** against epidemics like cholera and malaria, but it was not to be neglected even on the hills. It was with due attention to such matters that the 'Indian Colonization question' which "to a certain degree was not yet determined"[350] and which nothing but time alone could have

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[346] David Arnold, *The New Cambridge History of India III.5, Science, Technology and Medicine in Colonial India*, CUP, p. 81.

[347] W. J. Moore. *Health in the Tropics or Sanitary Art applied to Europeans in India*, p. 280.

[348] Ibid., p. 281.

[349] Ibid., p. 282.

[350] Ibid., p .281.

solved, instead of being deferred was proposed to be effected on Indian elevations.[351] These salubrious healthy and nodal points on the hills, well connected to the plains by the railways, were to ensure both the reflex action and health of the army. The context of epidemics like cholera and malaria made the efforts towards the healthy existence of soldiers in India paramount and incumbent upon the colonial establishment. It was also economically important because a diseased soldier was an economic liability and "every soldier who died cost the Government a large sum to replace him".[352]

The search for and location of temperate salubrious climatic zones as habitable sites for military cantonments started almost concomitantly. Places like Simla and areas around Simla (Dugshai, Subathoo, Salon, Jutogh, Dalhousie), Nainital, Mysore Plateau, Sivalik Range, Seonee, Dehradun, Darjeeling and Nilgiris were identified.[353] Even places of intermediate temperature and elevation were deemed fit. In the context of the cholera epidemic it was understood that cholera was inversely proportional to the elevation of the locality.[354] This view was held by one of the promoters of 'State medicine' in the 1860s, Sir Renald Martin, and was validated by one of the great cholera investigators and theorists, Max Von Pettenkofer. According to Pettenkofer "cholera prevails more intensely in the low districts, because all the organic impurities of the higher grounds gravitating thither, these undergo chemical action."[355] Pettenkofer's sub-soil theory which, in some sense, incorporated in itself Snow's water-borne theory partially explained that "cholera never prevails epidemically on rock, and accounts for the supposed fact on the principle that excrement cannot penetrate into the soil, and that rock neither absorbs nor gives off moisture."[356] So "cholera became one of the diseases which infect the ground" [357] and the

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[351] W. J. Moore, *Health in the Tropics or Sanitary Art applied to Europeans in India*, p.282.

[352] Julius George Medley, *India and Indian Engineering: Three Lectures delivered at the Royal Engineers Institute Chatham in July 1872*, p. 72.

[353] HOME/ SANITARY; No. (13-14) A; OCTOBER 1870.

[354] W. J. Moore, *Health in the Tropics or Sanitary Art applied to Europeans in India*, p.178.

[355] Ibid., p.178, (but in actuality quoted from *Investigations on the Propagation of Cholera*, Munich, 1885).

[356] Ibid., p.178.

[357] Ibid., p.178, (but in actuality quoted from 'Disregard of the Laws of Health' in *The Times*, June 17 1861).

cantonments in the plains were more vulnerable to cholera.

Max Von Petternkofer's 'sub-soil theory' of cholera causation was appropriated both by the contagionists and anti-contagionists to validate their own understanding of the disease. The contagionists with the aid of this theory increasingly started considering the Indian landscape as a cradle of cholera causing 'poison' or 'contagion' spread by the presence of porous soil with abnormally high level levels of ground water, and the Indian body was perceived as its carrier and agent. Pettenkofer's theory made the physical and chemical analysis of sub-social and its humid content important.

The anti-contagionist used Pettenkofer's theory to nuance their 'atmospheric epidemic influence' theorization. They linked the hygrometric conditions of a particular locality to the climatic and atmospheric vicissitudes of that locality but purged out the recognition given by Pettenkofer' to Snow's 'water-borne theory' and negated the role of human agency as the carrier of the 'contagion' and held to their earlier stance of according more importance to ***the epidemic influence of atmosphere***.

Interestingly, the cantonment is not the site where the ramifications of the anti-cantagionist and contagionist stance on sanitary agenda are to be understood. In the cantonment every theory was used to enrich the sanitation practice and to make it more fool proof. It was only when sanitary agenda for the larger public realm was being floated and was underlined by various Sanitary Commissions appointed in 1860s that the contagionist – anti-contagionist controversy, with their differing sanitary perception in the wake of many cholera epidemics, came to the fore. The randomness of cholera epidemics, the failure of acclimatization theory, and the general recognition that danger of epidemics was shared by both Europeans and Indians alike shifted the focus from the cantonment to the wider landscape.

The plea for the institutionalization of sanitary reform for the native population, in the midst of which the soldiers generally lived, was gaining ground as, in the view of the President for the Sanitary Commission for Bengal in September 1865, "it (was) hopeless to expect that we can guard against the attacks of epidemic disease by any amount of care in our cantonments if every sanitary precaution is neglected in the native cities and towns

close by."[358] The supposed agenda was to 'harmonize' the sanitary administration of military cantonments to the evolving sanitary administration of the adjacent areas, as "until the importance of all questions which concern the public health be distinctly acknowledged by the government, and measures be taken for establishing a properly organised system of sanitary administration upon uniform principles, we shall arrive at no satisfactory results."[359] Clearly, 'Public Health' and 'State Medicine' were emerging on the horizon and the state's role in ushering in an era of sanitary reforms in India, as was earlier underlined by both Florence Nightingale and James Ronald Martin, was gaining ground.

Pilgrim Sites, *Melas* and Cholera:

As the sanitary gaze shifts away from the cantonment to the wider realm, pilgrim sites in India start figuring prominently in the sanitary reports. It is around this site that the varied ramifications of the debates on the mode and nature of sanitary reforms were contextualized by the recurring cholera epidemics and became more intelligible. The pilgrimage site was construed by the British as culturally and epidemiologically a disturbed site. The fleetingness of the mass congregations, the great concourse of people with its elements of the mythical and magical were mediated at this site very often by the 'more than ordinarily mysterious disease' – cholera.

Indeed, the pilgrim sites constituted the arena in which cholera staged its greatest victory, claimed the largest number of victims. As opposed to the disciplined regime of the cantonment, the pilgrim site was distinctly chaotic and disorganized. However, if cholera had been the marker of difference, it was also the leveler of such difference. While the cantonment and the pilgrim site were two distinct and opposed sites in every sense of the term, cholera claimed its victims at both sites. It was at such contrasting sites that the colonizer and the colonized suffered alike. Nonetheless, in contrast to the cantonment, cholera proved more fatal at the wider realm where a greater degree of human intercommunication facilitated the progress of the disease.

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[358] HOME/ PUBLIC, NO. (2-3) A. 5th SEPTEMBER 1865.

[359] Ibid.

India had a good number of pilgrim sites and cholera appeared at many of these sites. Epidemic outbreaks of cholera coincided with the twelve-yearly *Kumbh Mela* or bathing festival at Hurdwar in 1867 and again in 1879.[360] The earliest reference to the spread of cholera at Puri, and the 'great sickness and mortality' it caused, is from the *Rathyatra* of 1821.[361] The mortality among the pilgrims in the year 1825 was appalling due to the outbreak of cholera in epidemic form. Thomas Pakenham, the Collector of Cuttack, informed the Commissioner that there was "a very large gathering of the pilgrims that year at Puri even before the *Snan Jattra*".[362] But at the time of the *Ruth jattra,* "mortality to a very lamentable extent took place, and the ravages committed by this dreadful disease were really most melancholic".[363] According to W. W. Hunter: "Puri city or the 'valley of death' was a hot bed of the disease. It only required the annually recurring conditions of overcrowding, of filth, of great heat or dampness, and sudden atmospheric changes to turn the pilgrim city into a pest house.... The car festival annually slays its thousands,"[364] and it (was) important "to get the pilgrims out of the place (after the car festival) so that they may not spread any more cholera than was absolutely necessary". [365]

The practice of pilgrimage with its ancient and diverse origin became all the more popular with the entrenchment of colonialism. In the second half of the 19th century, as India was being integrated by the railways and feeder roads, the people 'on the roads' and 'on fruitfull journeys' increased considerably. Most of them came from the ranks of ordinary people, a 'mute majority' from every 'bit of the compass', and from very distant

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[360] David Arnold, *The New Cambridge History of India III.5, Science, Technology and Medicine in Colonial India,* p. 83.

[361] David. B. Smith, *Report on Pilgrimage to Jugernnath in 1868 with a Narrative of a tour through Orissa,* Part II; Calcutta Central Press, 1868, p. 26.

[362] Prabhat Mukherjee, *History of the Jagannath Temple in the 19th Century*, Calcutta: Firma KLM Private Limited 1977, p. 162.

[363] Ibid., p. 162.

[364] L.S. S.O' Malley, *Bengal District Gazetteers: PURI,* Calcutta: The Bengal Secretariat Book Depot, 1908, p. 129.

[365] *Prabhat Mukherjee, History of the Jagannath Temple in the 19th Century*, p. 431.

places. "Signatures of their motivational journey were left behind in the genealogical registers maintained by the 'pandas' at many sacred centres."[366]

Railways aided not only pilgrims but also the 'pilgrim hunters' to cast their net wider. "Ever since the city of Gaya became famous for its sanctity", wrote its administrator in 1790, "it has been the custom of its Brahmins... to travel through all countries where the Hindu religion prevails in search of pilgrims. These 'pilgrim hunters', 'gomastahs or agents' called 'gayawalis' gave rise to a very extensive system of pilgrim hunting and "discharged their vocation with astonishing industry, dexterity, and success"[367] ever since the 'marvel and miracle' of railways and roadways abridged both distance and time.

The introduction of railways even altered the 'hierarchy of sacred places' as pilgrims increased in the sites connected by railways, and fewer pilgrims frequented the sites that were not connected by the rail route. "The introduction of railways in Upper India induced the rich Hindustani pilgrims to visit the shrines such as Vrindavan and Banaras, thus avoiding the ordeal of long journey on foot [to] Puri."[368] The rising tide of pilgrims further increased with the abolition of the 'pilgrim tax' in 1840. Brij Kishore Ghose in his *History of Pooree* wrote that: "about six lakhs pilgrims resorted to Puri between 1843 and 1847."[369] According to his estimate, "189,912 pilgrims came in 1844-1845 and 210,325 pilgrims came to Puri in 1846-47."[370] As these figures are representative of an era of census infancy, they are not reliable, but still they indicate that "pilgrim traffic increased steadily over the 19th century"[371] and, not withstanding the fluctuations caused by famine and flood, "[they] marked a virtual demographic invasion"[372] of Puri.

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[366] B.N. Goswami, 'The Records Kept by Priests at Centres of Pilgrimage as a source of Social and Economic history' in *IESHR*, 3, 1996, pp. 174-84.

[367] Anand A. Yang, *Bazaar India: Market, Society and the Colonial State in Gangetic Bihar*, p. 136.

[368] Prabhat Mukherjee, *History of the Jagannath Temple in the 19th Century*, p. 422.

[369] Ibid., p. 421.

[370] Ibid., p. 421.

[371] David. B. Smith, *Report on Pilgrimage to Juggernath in 1868 with a Narrative of a Tour through Orissa.*

[372] C.J.O.' Donnel, *Census of India 1891, Vol II, The Lower provinces of Bengal and Their Feudatories*, Calcutta: Bengal Secretariat Press, 1893, p. 123.

As the rising tide of pilgrims crested in the age of colonialism so did cholera mortality at these sites. In 1896, cholera claimed "25.13 lives per mile in Puri town."[373] Along with Gaya and the suburbs of Calcutta, Puri furnished the largest proportion of victims from cholera in 1887.[374] In the Puri town, during 1889, the death rate due to cholera epidemic was 23.76 per thousand.[375] The *Poona Observer* of the 3rd December 1861 reported the "gathering of 40,000 pilgrims at Punderpore that year and the seat of God Vithoba recorded cholera deaths at the rate of forty per day."[376]

Similarly, Benaras, Allahabad and Hardwar were famous pilgrim sites. Allahabad and Hurdwar's Kumbh and Ardh Kumbh melas were attended by lakhs of people. "Over three million pilgrims assembled at Hurdwar from all parts of India and even from other parts of Asia in 1870."[377] In the medical literature of the time, no other city in India figured with as much prominence as Jagannath in connection with the regularity of cholera outbreaks. "It has been called a plague-spot, the valley of death, a pest-house whence streams of disease constantly issue, and the ever open grave of throngs of pilgrims."[378] The city was, in fact, one of the most overcrowded sites for pilgrimage. In July 1893, an estimated 200,000 pilgrims assembled on the occasion of the re-incarnation of Jagannath.[379] Such overcrowded gatherings were the ideal sites where cholera wrecked havoc in devastating numbers.

The cholera epidemic of 1879 in Hardwar is too famous to be recounted. Hardwar had and acquired an 'unenviable notoriety' as a cholera centre and remained as such even

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[373] C.J.O.' Donnel, *Census of India 1891, Vol II, The Lower provinces of Bengal and Their Feudatories*, p.123.

[374] HOME/ SANITARY; (6-10) A; DECEMBER,1888.

[375] C.J.O.' Donnel, *Census of India, 1891*, p. 123.

[376] W.J. Moore, *Health in the Tropics or Sanitary Art applied to Europeans in India*, p. 188.

[377] HOME/ PUBLIC; No (163-240) A: 1st JANUARY 1870.

[378] Charles Banks, 'Observations on Epidemics of Cholera in India, with special reference to their immediate connection with Pilgrimages', Reprinted from the *Glasgow Medical Journal*, p. 1.

[379] Ibid., pp. 2.

in the first decade of the 20th century. In the United Provinces, the *Report of the Pilgrim Committee* traced the trajectory of the spread of cholera in the province pointing out that:

> It was responsible in 1909 for the introduction of this disease into Meerut and Muzaffarnagar, in 1910 into Saharanpur, in 1913 into Meerut and Bijnor and generally every year into Garhwal. Definite instances in various years have also substantiated the complaint that cholera is frequently introduced into Punjab by pilgrims returning from Hardwar. In 1906 the Kumbh mela in Allahabad was responsible for a serious epidemic in Banda, Karwi and Chitrakot. In 1908 cholera was introduced into Mirzapur from Allahabad. Pilgrims returning from Puri have brought cholera to the Central Provinces every year in the last decade except 1903 and 1904 and also into Allahabad and Ayodhya in 1910 and 1912. In the epidemic of 1912 in the Central Provinces over 34,000 deaths were reported. In 1912 again, cholera was imported into the Etah district from Saron, and in 1910 into Fatehpur, Rae Bareli and Pratapgarh districts, from Bindhachal.[380]

Besides pilgrim sites being considered as the notorious arenas where cholera played havoc, the emphasis in the late 19th century also fell upon the route that was frequented by the pilgrims to the sacred shrines. The pilgrims' route was, in other words, a death route with large numbers of devotees succumbing to the disease on their way to and back from the pilgrim sites. Observations made regarding the cholera of 1873 in Orissa noted that:

> of the total number of 2,008 deaths recorded during the [first] eight months, 1,515 were in the four thannahs through which the pilgrim route passes, 255 deaths were in Olabhur, where pilgrims and other passengers come in large numbers from Calcutta by steamer, leaving only 238 for the remaining four thannahs; and of these 125 deaths occurred in two limited outbreaks in Jagatsinghpore and Puttamoondi in the month of March. These figures show ***how limited the disease is in its range*** (emphasis added), how it sticks continually to the neighbourhood of the trunk road until the season of pilgrimage is over; and that, when it occurs in other parts of the district, it is in short limited outbreaks which soon cease.[381]

The 'pilgrim route theory' was premised upon the basic understanding of perceiving human beings as the effective agents of the disease discounting the general influence attributed to the air and soil. The above articulation embodies the tension among the anti-contagionists to subscribe to the 'pilgrim theory' in toto as here the localist strain and consequently the underplaying of human agency in the spread of the disease is

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[380] *Report of the Pilgrim Committee: United Provinces 1913*, Simla: Government Central Branch Press 1916. p.2.

[381] H. Cayley (Surgeon-Major), 'Observations on Cholera in Orissa, and its Connexion with Pilgrimage to Juggurnath' in the *Indian Annals of Medical Science*, Vol. XVI. No. XXXII, p. 409.

palpably clear. In contrast, for the contagionists, the pilgrims or travellers were seen as the prime carriers of the cholera contagion not only spreading it around them, but also leaving it behind when they departed. "They not only die themselves, but they leave in their wake a fell track of death and misery."[382] For the contingent-contagionists, the notion of cholera as strictly abiding to the pilgrim route led to the perception that the disease occurred in 'isolated outbreaks' which largely resulted from the arrival of people from infected places. This understanding prevailed in spite of the mortality figures among pilgrims themselves remaining largely invisible. The registered deaths pertained mainly to the inhabitants of the surrounding area – "the penalty they [paid] for living near so holy a pilgrim route".[383]

That cholera and pilgrimages were almost inseparably related to each other was the cardinal point underlined by the subscribers to the 'pilgrim theory'. In fact, in areas like Cuttack, through which the passage of pilgrims had been forbidden, it was seen that the city suffered comparatively little from the disease, despite the dirt and insanitary conditions prevalent. The spread of the disease was clearly attributed to its 'importation' into towns by way-faring pilgrims. In Puri, the cholera outbreaks in district villages were, without exception, traced to pilgrims or travelers along the pilgrim routes.[384]

As discussed in the previous chapter, the debate on the 'quarantine' or 'pilgrim theory' was marked by several discordant voices. A diversity of opinion regarding the effects of pilgrims in disseminating cholera was inevitable, given the capricious nature of the disease and the preponderance of varied theories regarding its spread. Notwithstanding the imperfections of the quarantine, its advocates had faith in its effectiveness even if it was in a limited sense. However, even quarantine during pilgrimages was viewed as "impracticable and dangerous", though isolation was considered as "one of the most important preventive measures".[385] But the crucial question that was posed by them remained whether the state was justified in permitting such gatherings that only left behind

[382] H. Cayley (Surgeon-Major), 'Observations on Cholera in Orissa, and its Connexion with Pilgrimage to Juggurnath', p. 410.

[383] Ibid., p. 410.

[384] Charles Banks, 'Observations on Epidemics of Cholera in India, with special reference to their immediate connection with Pilgrimages', p. 14.

[385] Ibid., p. 28.

them a trail of death and misery and whether the principle of non-interference was more important than checking a scourge like cholera.[386] As Dr. Banks, the civil Medical Officer investigating the cholera epidemics in Puri-Jagannath, pointed out:

> So inseparably, does it appear from personal observation, are cholera and pilgrimages connected, that in order to prevent the former it is necessary to prevent the latter. So long as pilgrimages are tolerated or considered so essential by the Indian native community from a religious point of view, so long will the death-rate from cholera remain high, and, that too, in spite of climatic or other conditions.[387]

Any step in the above direction was no doubt precarious considering the state's avowed aim at non-interference. Besides, the options available to the state itself were limited by the contingency of the disease. Nonetheless, the growing emphasis on the role of humans as agents in the dissemination of cholera opened up a new dimension in the ongoing debate on cholera causality which will be discussed further along in this chapter. As will be seen, the state accordingly tuned itself to these new developments establishing for itself a pragmatic role that advocated intervention in the form of strong sanitary regulations at the pilgrim sites to curtail the cholera devastation.

Cholera moved easily from the distinguished nodal pilgrimage sites to other lesser known sacred sites. It permeated pan Hindu, supra regional, regional, sub-regional and local and thus overlapped with the socio-religious and religio-economic fields of the nodal pilgrimage centres, thus creating a larger ecology and cosmology for the disease. The emergence of great pilgrimage centres accentuated the emergence of melas and fairs which mediated geographically, socially and economically into the multi level hierarchy of sacred places. "(As) a response to the rising traffic of pilgrims, the founding of melas led to the annexation of new sacred domains and the establishment of additional facilities to cater to the growing non spiritual demands."[388]

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[386] H. Cayley, 'Observations on Cholera in Orissa, and its Connexion with Pilgrimage to Juggurnath', pp. 417-18.

[387] Ibid., p. 15.

[388] Anand A. Yang. *Bazaar India: Markets, Society and the Colonial State in Gangetic Bihar*, p. 124.

Melas and festivals around pilgrimage sites were sites of diffusion where the 'great' and the 'little' traditions merged and this diffusion in no way undermined the status of the pilgrimage sites of great repute. These diffusion sites as sites of local-trade created a socio-economic field closely syncronized by the seasonal cycles of the region and the Hindu calendar and fitted in with the larger marketing system of the region. Pilgrim routes were also the trade routes in an age of 'expanding markets and trade' and cholera often took this route to weave a 'disease ecology'. Cholera was disseminated far and wide by the pilgrims and traders.

The timings and direction of the main pilgrim flow seemed to merge with the epidemic movement of cholera. The movement of a baffling and mysterious disease along with the religious movement of pilgrims alarmed the administrators of the day as they had least control on any of these two movements. To disrupt it was to offend the religious sensibilities and to hinder and damage the self-propelling trade fostered by the natives. To many administrators and medical men "cholera offered striking evidence of the close connection between human mobility and epidemic disease".[389] "Benaras (as) (it) stood at a critical juncture between the pilgrimage places of eastern India – Puri, Baidyanath and Gaya especially – as the sacred sites of the upper Ganges valley was one of the key centres in the all-India network of temples, shrines and religious festivals"[390], and was "subject to wider patterns of pilgrim mobility and disease dissemination".[391] "It frequently (had) cases of cholera brought by pilgrims on their way to, or coming from, fairs in other parts of the country and smallpox had been traced in the same city from Madras pilgrims. Again the Central Provinces was visited by an outbreak of cholera in 1913 due to pilgrims coming from Benaras."[392]

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[389] David Arnold, 'The Ecology and Cosmology of Disease in the Banaras Region' in Sandria B. Freitag's (ed) *Culture and Power in Benaras: Community, performance and Environment 1800-1980*; Delhi: OUP, 1989; p. 254.

[390] Ibid., p. 254.

[391] Ibid., p. 255.

[392] *Report of the Pilgrim Committee United Provinces 1913*, Simla: Government Central Branch Press 1916, p. 2.

With the acceptance of Snow's 'water-borne theory', Pettenkofer's 'sub-soil theory' and the cognition of 'some specific poison' as the causative which could multiply in the human body and could be carried through human agency, fissures began to appear in the anti-contagion – localist-atmospheric theory. By the 1870s, many sanitarians challenged the anti-contagionist stance and thought cholera to be a contagious disease. They either took a contingent-contagionist stance or a purely contagionist stance and saw the large movements of 'people on the road' on 'fruit full journeys', crisscrossing the movement of troops, with alarm. The contagion carrying crowd converging at an autonomous sacred site, where the army was frequently used to bring order, was to prove fatal for the deployed regiment. In fact, on one particular occasion, when the government of the North-western Province requested the Government of India for additional troops to supplement the strength of the police force deployed, the Governor General expressed his displeasure as he did not think that "resort should be had to the military force on such occasions".[393]

Pilgrimage as an anti-structural counterpart to the structured social organisation of society, and pilgrim sites as the site of the formation of 'communitas' was the crucible, the container where momentary suspension of mundane bonds of the structured society took place and pilgrims interacted or encountered each other as free, equal leveled and total human beings.[394] The sacred site had its own dynamics where not only the supra brahminical merged with the regional, but where even heretical voices could also be tolerated. It, in fact, harboured "people who appeared by their nature to wander beyond the boundaries of settled civil society – Sannyasis, Sadhus, fakirs, dacoits, goondas, thugs, pastoralists, herders, and entertainers".[395] Such a chaotic site mediated by cholera became even more dangerous as here the disorder was combined with disease, and the myth of religion combined with the mystery of the disease.

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[393] HOME / PUBLIC; No. (1-6) A; 19th March 1870.

[394] E. Alan Morris, *Pilgrimage in Hindu Tradition: A case study of West Bengal*. Delhi: OUP, 1984 p. 256; Also see, Victor Turner's 'Pilgrimage and Communitas'. Studia Missionalia. 974, 23, pp. 305-27.

[395] Bernard S. Cohn, *Colonialism and its forms of Knowledge: The British India*. Delhi: OUP, 1997, p. 11.

Not surprisingly, the colonial administrators in general and contagionist sanitarians in particular saw the concourse or congregation of pilgrims as a source of threat, rupture, disorder and disease. The pilgrim sites challenged the then prevalent 'enumerative modalities' of the colonial rulers. The modalities used in identifying, classifying, and fixating populations into neat and safe compartments of caste, community and sect started crumbling and dissolving at the pilgrim sites. Newer modalities contextualized by diseases and epidemics were sought to be forged.

The contagionist sanitarians underlined the influence of human agency in the spread of cholera. "Focusing on the peculiarities of Indian religious culture as much as on its physical environment, Hindu festival sites and pilgrimage routes were identified as one of the means by which cholera epidemics were disseminated."[396] Pilgrim sites were construed as "festering social spots which yearly gathers, and then bursts, on all of the surrounding country".[397] The railways as the carrier of troops and pilgrims became suspect. In their view, the highest invention of the age in the context of cholera epidemic at pilgrim sites was facilitating Hindu superstitions.[398] The religious fervor of the pilgrims was seen as orthodoxy which the Hindus simply varnish over with a worthless philosophy. Worshipping these stone gods was a painful proof of the Hindus' utter stupidity and depravity.

For the contagionist, cholera in India followed the lines of human intercourse, of the great rivers and roads and railways stretching through the vast extent of territory, and so it was incumbent upon the marching troops to avoid interception with cholera carrying pilgrims. Dr. G. S. Beatson who was loosely contagionist or a contingent-contagionist wrote to Lt. Colonel F. S. Roberts, officiating quarter master general of the Bengal army, in 1874 that "it would be desirable that infected bodies of natives returning from some of their huge gatherings should not be allowed to pass through crowded centers of population or cantonments which are as yet free from cholera."[399]

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[396] David Arnold, *The New Cambridge Henry of India III. Science Technology and Medicine in Colonial India*, p. 83.

[397] W.J. Moore, *Health in the Tropics or Sanitary Art applied to Europeans in India*, p. 185.

[398] Ibid., p. 187.

[399] HOME/ SANITARY: NO. (14-20): MARCH 1874.

Since the pilgrim site was an unsettling site both culturally and epidemiologically, from the contagionist standpoint, specific, strong and pervasive sanitary intervention was required. They advocated pan Indian Sanitary legislations and agencies to implement it. They underlined the importance of safe drinking water and wanted water works to be started in all cities. De Renzy recognized the importance of cantonment conservancy in India but registered his protest against heavy expenditure on the implementation of the Contagious Disease Act in the cantonment. Recognizing the importance of the 'water-borne theory' of cholera causation De Renzy wanted the money to be spent on improvements of water supply in cantonments and in grants-in-aid to municipal commissions for the same.[400] The contagionists wanted a liberal use of disinfectants and deodorants at the pilgrim site; they urged for the isolation of the sick in specially made cholera hospitals. Cases of diseases were to be removed to detached and isolated hospitals for treatment. The removal to a hospital, it was thought, was no injury, in fact, it was to prove advantageous to the sick as it was a duty towards and a benefit to others. Dr. G. S. Sutherland, Inspector General of Prisons, was of the view that cholera patients should not be taken to a general hospital; instead, they should be treated in a quarantine hospital.[401]

Rules for the management of large fairs in Oudh, published for the information and guidance for administrators, prescribed that:

> If cases of cholera, smallpox or contagious fever should appear at any fair, the people attacked with the disease should be removed without delay to the hospital set apart for contagious diseases, and there treated until the disease has proved fatal, or until convalescence has been established, for cholera is best treated in a separate and special place cut off from communication. Where cholera has prevailed the contagious disease hospital should be burnt to the ground on the close of the fair, and for the conveyance of such patients to hospitals, a 'doolie' (charpoy carried on a pole and covered by blanket) and bearers should be attached to every police station in the fair. After the 'doolie' has been once used, it should be retained at the hospital and a new 'doolie' provided at the police chookee. The 'doolie' and 'charpoy' which have been used in the hospital should all be burnt before the hospital is broken up. The clothes and bedding of every patient who may die of the above mentioned diseases should be burnt as soon after his death as may be conveniently done.[402]

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[400] Mark Harrison, 'A Question of Locality: The Identity of Cholera in British India, 1860-1890', p. 138.

[401] HOME/ SANITARY; No. (13-20) A; 26th FEBRUARY 1870.

[402] HOME/ SANITARY; No: (24-25) A: DECEMBER 1874.

On the question of quarantine, even the contagionists were not unanimous, but many of them subscribed to it. In short, those who adhered to the contagionist stance of cholera dissemination feared pilgrimage; saw railways and roadways as epidemicizing routes; found fault with the cultural idiocyncracies of the natives; advocated interventionist sanitary programmes financed partly by the government and partly through local taxation; and urged for financially strong municipal bodies which were to implement viable and stringent pan Indian sanitary legislation. For many of them, local factors in cholera causation and communicability were not inconsistent with their general understanding of the communicability of the disease.

In contrast, the anti contagionists led by J. M. Cuningham portrayed cholera as a ***naturally existing entity***. In their understanding, the cholera producing 'entity', whatever be its name, is present everywhere naturally and it is only the localized atmospheric and hygrometric phenomenon which accentuates it to epidemic level. They underlined the mediation of the 'atmospheric disturbances' between the natural endemicity and the instances of epidemicity and negated the role of human agencies in its causality and communicability. Owing to the natural endemicity of the cholera entity for the past many hundred years, it could not be regarded as a new disease. As the epidemic influence of the climatic or atmospheric phenomena of the locality induced and propelled endemicity to cross the threshold to become epidemic, laws governing the atmospheric or seasonal variation of the locality will provide a clue to laws governing the epidemic in that locality. "An epidemic of cholera is not a history of gradual spread from a center or from many centers, but a history of outbreaks localized in a comparatively small number of the inhabited towns and villages."[403]

In adherence to their localized standpoint, the word 'importation' as a qualifier for cholera was not used by the anti contagionist. In contrast to the contagionist view, Cuningham did not suspect railways. As he perceived it, the ariel disturbance as an epidemicizing influence had nothing to do with railways, roads and steamers. In fact, the railway was a boon as it helped to pull out troops from the locality where cholera had acquired epidemic proportions. The ariel highway of cholera had nothing to do with human

[403]J. M. Cuningham, *Cholera: What can the state do to prevent it?* p. 18.

movement. "Once there is evidence that a severe outbreak is threatened, removal from the affected locality is the only measure which is productive of benefit, and this measure in India has been successfully carried out in the case of both troops and prisoners times without number."[404] Validating his understanding that removal from the affected locality is the only means of escaping the horrors of outbreak, Cuningham cited the example of cholera outbreak among the boys of St. Peters College, Agra, "where 65 were sent to their homes in different parts of the country. Of these 12 were attacked and 5 died, but in no single instance did a boy cause any attack in the place where he was sent[405] and, according to him, ***"benefits of movement can be explained only by remembering that localization is one of the most remarkable peculiarities of cholera*** (emphasis added)."[406]

Further, in the anti contagionists' opinion, since quarantine and cordons were to interfere with physical movements, they were of no use. The fear of quarantine forced the people to conceal cholera cases and made them localized in specific cholera localities, which was to prove fatal.[407] Moreover, quarantine led to unnecessary hardships and oppression, especially in a country "where the police (was) so venal and the population so submissive".[408] Barricading ariel epidemic influences by cordons and quarantines implemented by human agency was simply ridiculous. "To impose quarantine or cordons in order to keep out cholera is a proceeding no more logical or effectual than it would be to post a line of sentries to stop the monsoon."[409] In Cuningham's view, quarantines and cordons were more mischievous than the mischief of cholera itself. And while these measures do no good, they have done much harm by paralysing trade, by inspiring an unreasonable panic, and diverting men's minds and public money from sanitary

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[404] J. M. Cuningham, *Cholera: What can the state do to prevent it?* p. 26.

[405] Ibid., p. 27.

[406] Ibid., p. 27.

[407] J.M. Cuningham. *Annual Sanitary Report for 1872, Report on the cholera epidemic of 1872 in Northern India.*

[408] J. M. Cuningham, *Cholera: What can the state do to prevent it?* p. 25.

[409] Ibid., p. 24.

improvements.[410] Interestingly, many a time, Cuningham took refuge under the 'pragmatism' which his thirty-three years of experience had taught him. From this pragmatic standpoint, he saw the isolation of the sick and the disinfection of the locality as powerless measures, but he offered no scientific theory to support his argument.

In contrast to the contagionists who spoke about fairs and festivals with horror and contempt, some of the anti contagionists were almost sympathetic to the native tradition of pilgrimages. "In no instance has cholera ever radiated round all sides of a dispersing fair. The pilgrims themselves may have suffered much on all sides for a short distance till the influence of the fair itself had ceased to act,"[411] but, according to Cuningham, there was no example of an epidemic among the people which had radiated all round a fair. Cholera in the anti-contagionists' understanding had a definite epidemic movement which could be determined by studying the regularity of atmospheric and climatic patterns. Returning pilgrims suffered only when "they were moving in the same direction as the epidemic"[412], and, as "the main body of an epidemic, almost invariably, travels much more slowly than man travels"[413], there was no need to find fault with the crowd of returning pilgrims. Hence, the argument that since cholera never did move faster than man, therefore human beings must be the carrier of cholera, was dismissed as fallacious.

The anti-contagionists, particularly Cuningham, bore disdain for the numerous theories regarding cholera and, by Cuningham's own confession, "his object was to discuss the cholera question 'from a purely practical point of view'".[414] As the most experienced and longest serving sanitarian, Cuningham on behalf of the Government of India declared that:

> the policy of the Government of India is to reject all theories as a basis of practical sanitary work. They are guided by their large experience, and this experience teaches in most unmistakable language that in dealing with cholera, theories cannot be taken as a guide for any useful action on the part of the state;

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[410] J. M. Cuningham, *Cholera: What can the state do to prevent it?* p. 69.

[411] Ibid., p. 83.

[412] Ibid., p. 83.

[413] Ibid., p. 83.

[414] Ibid., p. 69.

> that by improvements in the condition of localities a vast amount of good may be done, but that any attempt to carry the doctrine of contagion into practice does no good, and is productive of much harm, not only because it involves oppression, but also because it vastly aggravates all the evils it is intended to prevent.[415]

But whenever a theory appeared which validated his anti-contagionist stance, he readily acknowledged it as a given truth. In 1869, T. R. Lewis and D. D. Cunningham while examining the aetiology and spread of cholera in India concluded that:

> human agency alone could not explain the peculiar distribution and periodicity of the disease and that the cholera 'poison' developed neither in water nor in the human body, but in the soil, a medium that was in turn influenced by climate and by seasonal variations in rainfall and humidity and that cholera had 'as good a claim as malarial diseases to a telluric origin'.[416]

J. M. Cuningham readily accepted the above theory because it validated his anti-contagionist – localist standpoint. Though Cuningham time and again declared his disdain for all theories, in reality it meant the wholesale rejection of the contagionist standpoint, because in his opinion, "even if the contagion doctrine were to be proved true, no practical action could be based on it".[417] Needless to say, the contagionists had their own charter of practical sanitary steps, but as most of them were not congruent with the priorities and exigencies of the colonial state, Cuningham construed them as totally impractical and oppressive.

The contagionists wanted a pan Indian interventionist sanitary reform equipped with strong legislation, proper funding, and under the central supervision of efficient and strong municipal bodies as implementing agencies. Such measures advocated by the contagionists were costly steps which were meant to implicate the state in direct and forceful contact with the masses, though the resulting friction carried with itself the impending danger of native backlash.

As the public realm was a fluid realm, the transplantation of sanitary agenda from the cantonment to the public realm without interfering with the native customs was easier

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[415] J. M. Cuningham. *Cholera: What can the state do to prevent it?* p. x.

[416] David Arnold, *The New Cambridge History of India III. 5 Science, Technology and Medicine in Colonial India*, p. 84; Also see, T.R. Lewis and D. D. Cunningham, *Cholera in relation in certain physical phenomena*, Calcutta, 1878, p. 115

[417] J.M. Cuningham, *Cholera: what can the state do to prevent it?* p. 134.

said than done. It was also at this moment that the contradictions in the colonial state's approach to the cholera problem became more evident. The implementation of quarantine of course meant an active intervention of the state in native customs. However, besides the fear of native backlash, quarantine as advocated by many of the contagionists had the potential to disrupt trade. Moreover, the state wanted to give a non interventionist impression, and in simultaneity wanted to project itself as a caring and benevolent state which harboured no prejudice against natives and their customs. Yet, the ravages of the disease at various pilgrim sites necessitated more than just a casual intervention on the part of the state in the native customs and beliefs.

In the backdrop of the colonization debate and the experiences of the mutiny, if the imperialist vision was to be kept alive, it had to refigure its relationship with the natives and their nativity in a different manner. 'Pragmatism' was to be the key word. Even if pilgrimages were a nuisance they had to be managed in the light of the promises expressed in the Queen's Proclamation of 1858. The racial turn in the British approach in general and the medical discourse in particular had to be reconciled to this 'pragmatism' of holding on to the empire in the cheapest possible way. J. M. Cuningham represented this reconciliation.

As cholera was the disease of the locality, localized sanitary agendas would suffice, and these could be carried out by already existing local bodies as, in the opinion of the localized sanitarians,

> throughout the whole of India, not only in military and civil stations, but also in the native cities and villages, machinery already existed and to a great extent money necessary for carrying out practical measures of sanitary improvement was (also) ready. The municipal and local funds were very considerable and they were capable under proper management of being largely increased.[418]

In actuality there were hardly any financially capable municipal bodies throughout India, except in Presidency towns and some other larger towns. Many of the municipalities were created by the compulsion of assemblages or *jattras* taking place in the locality and, as cholera prevailed at many of these sites, a "proposal to legalize the levy of a pilgrim tax at *jattras* and fairs where the numbers assembled exceeded two thousand, in view to the

[418] HOME/PUBLIC; No. (2-3)A; 5th September 1865.

formation of a fund to be expended in promoting the comforts of pilgrims"[419], was floated by the revenue commissioner of the Northern division, Mr. Bellasis, in 1869. It was unanimously supported by all the district collectors of the division. Collectors of each district prepared detailed lists of *jattras* and fairs held, the months in which they were held, and the number of pilgrims attending them. They proposed that the enactment on the subject of the fairs should include (1) A tax varying from 2 annas to 4 annas on every pilgrim, (2) the licensing of lodging houses for pilgrims (3) imposition of fines for keeping of unlicensed lodging houses and (4) licensing of stalls or a stall tax not exceeding 8 annas per square yard for stalls.[420]

The main problem before many of the collectors was the remoteness of many of the pilgrim sites and fairs and that at many of them the assemblages were not very large. Many of them did not have municipalities, but the district collectors vowed to "do their best to create municipalities"[421] funded by the proposed levy of taxation, at such places. It should be kept in mind that the pilgrim tax had been abolished in 1840 and the above mentioned proposal was merely to revive it.

Though the Governor General in his reply letter of 19th March 1870 to the proposal expressed his inability to "take legislative action in the matter of a pilgrim tax"[422], he left the matter to the discretion of the provincial government to find the best means and to "make the best arrangements feasible to protect both the general population and the pilgrims themselves against the dangers arising out of the assemblage of people at fairs and *jattras*"[423] where cholera ravages were frequent.

But gradually this inability was done away with because Mayo (Governor General 1869-1872), in order to partially delegate financial burden to the provincial government, brought his resolution on the provincial finance of 1870. "Its aim was to give provincial governments an incentive to cut public spending by devolving upon them certain heads of

[419] Home Department Proceeding Volume; March 19, 1870.

[420] Ibid.

[421] Ibid.

[422] Ibid.

[423] Ibid.

income and expenditure previously controlled by the Indian government."[424] However, the provincial governments, as shown, passed on their burden to the ill formed and ill equipped municipalities.

It was through these municipalities that the localized sanitary agenda was to be realized. Working for the larger imperial vision, the colonial state and the most influential section of the colonial sanitarians carved out an autonomous space for themselves and subverted the universal claims of medical sciences pertaining to cholera, though these claims had emanated from the metropole itself. Even Koch's microbial theory was dismissed by J. M. Cuningham who held on to his assertion about the epidemiological uniqueness of India regarding cholera. Clearly, 'interests are indistinguishable from claims which actors make'.

Michael Worboys has recently stressed "the importance of understanding diseases in terms of cultural practices rather than as a simple biological entity."[425] The importance of understanding diseases like cholera in terms of the state's sanitary policies initiated against the disease becomes paramount because it reveals how the state went about in its understanding of the cultural practices of the population. Cholera, in other terms, highlights those significantly contradictory moments in the state's attitude vis-à-vis its armed forces and the native population at large. J. M Cuningham from his anti-contagionist standpoint made the causality and communicability of cholera congruent to the exigencies and priorities of the state, in simultaneity making it congruent with the native practices to justify a localized sanitary agenda and to reduce government expenditure and intervention.

The net result was the widening of the epidemiological chasm between the country at large and the cantonments. With better sanitation, cantonments became safe and, by 1899, mortality had come down to around fifteen per thousand.[426] In contrast, among the "Indian population, however, cholera mortality remained devastatingly high; in 1900, a

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[424] Mark Harrison, 'A Question of locality: The Identity of Cholera in British India, 1860-1890', p. 140.

[425] Ibid., p. 135.

[426] Philip D. Curtin, *Death by Migration: Europe's encounter with the tropical world in the 19th Century*, Cambridge, 1989, pp. 104-29.

severe famine year, over 800,000 deaths from cholera were recorded".[427] "Though cholera in the army had almost disappeared the pilgrim question remained a festering sore and it was only in the second decade of the 20th century that the Government of India founded the Pilgrim Enquiry Committee."[428]

No sanitary movement existed in India and public health remained the "ugly duckling of a civil service"[429] whose priorities were very different. The final chapter will turn its focus to the attempts by the medical men of the age to come up with a successful prophylactic breakthrough in the treatment of cholera by engaging with the dominant 'heroic' therapies of western medicine. However, as will be seen, cholera not only challenges the limits of heroic and rational medicine, but it actually becomes the contexualizing disease that leads to the emergence of a new alternative pathy.

[427] David Arnold, *The New Cambridge History of India III.5, Science, Technology and Medicine in Colonial India*, p. 86.

[428] Ibid., p. 86. Also see Roy Macleod and Milton Lewis (ed.) *Disease, Medicine and Empire: Perspectives on Western Medicine and the Experience of European Expansion*. London: Routledge, 1988, pp. 38-61.

[429] Ira Klein, 'Death in India, 1871-1921' in *Journal of Asian Studies*, 32, (1973) p. 656.

CHAPTER V

THERAPIES, THERAPISTS AND THERAPEUTICS

This chapter will be a stocktaking exercise for the various therapies and therapeutics that were employed by the medical men to combat cholera in the 19th century. A successful prophylactic breakthrough is like a successful cinema, where both art and science merge, where both theory and practice combine to produce a desired effect. A prophylactic employment of various therapies and therapeutics is intimately linked to the understanding of the etiological and epidemiological parameters of the disease and their implications for it and on the diseased population. Both these parameters regarding cholera remained controversial all along the 19th century. Amidst these controversies about the nature and cause of the disease, its symptoms and their variations at various stages of the disease, no doubt, were recorded consistently and meticulously. That is to say, the 'empirics' of the disease was established but the 'rationale' behind those controversies still eluded medicine. This recorded consistency of the symptoms of the disease, amidst the causation controversies, was the marked feature of the medical literature on cholera in the 19th century.

Notwithstanding the occasional confusion generated by the symptomatological overlaps with other diseases which both preceded and followed cholera, the diagnosis and prognosis based on its symptoms got fairly well established by the middle of the 19th century. But why these symptoms arose and how they were to be tackled challenged the very limits of medicine. What therapeutic arsenals the dominant western medicine employed against cholera and what were the 'rationales' it offered, will be our subject of discussion in this chapter.

It is a well documented and well established fact of medical history that medicine for the larger period of the post-Enlightenment era was crude and heroic. Medicine which was heavily influenced by the Cartesian mechanistic model of science was continuously streamlining and nuancing its understanding of the human anatomy and physiology and the

alteration caused by diseases to them. Both nosology and pathology were poised to acquire their distinct shape by the middle of the 19th century. However, at the prophylactic and curative levels, medicine was crude and heroic and, by today's standards, even barbaric. The pharmacopea of this heroic age was ***slim***, the barber's blade was sharp and there was no anaesthesia[430] to soothe the pain.

In what manner did the context of heroic therapy allow for the emergence of an alternative pathy – i.e., homoeopathy within western medicine and how was this strand picked up by some colonial men, will be our concern. It will serve as the backdrop to our delineation in which cholera will figure as the contextualizing disease for the early conversion of some of the allopaths in the colony. We will anchor our account on one of the most famous and early converts to homoeopathy – Dr. Mahendra Lal Sarkar – for the delineation of the then prevailing therapies and therapeutics and their linkages to the causation controversies pertaining to cholera. The hostile reaction meted out to Sarkar by his allopathic peers and by the medical establishment will shed light on the working of colonialism.

The claims of therapeutic efficacy and its superiority can be assessed in a more proper manner if we allow the voices from some of the 'rival traditions' to speak out. Here, Sarkar's voice as a physician allows us to do so for the last quarter of the 19th century. This is important because, as one flips through the voluminous treatises on cholera written during the course of the 19th century, one is struck by the paucity of accounts on therapies and therapeutics related to the treatment of the disease. One is compelled to conclude that, for much of the cholera history in the 19th century, the number of 'curative' measures/entities within the materia medica, were extremely small. Moreover, the drugs used to manage the patient were not administered on fixed principles and much depended on the exigencies of the circumstances and on the personal conviction of the individual doctors. The anxiety fostered by the baffling disease often compelled them to adopt vigorous medical treatments like bleeding and paraboiling, which increased the risk of

[430] Interestingly, John Snow, whose contribution to the understanding of cholera causation and communicability remains a benchmark in the history of the disease, was also one of the founding fathers of anaesthesia. In 1853, he was the chosen doctor to administer chloroform to Queen Victoria during childbirth. See T. W. Korner, *The Pleasures of Counting*, Cambridge: CUP, 1996, p. 4.

iatrogenic damage. Pessimism was manifest in the articulations of many medical men who encountered the disease. As alluded to in the previous chapters, many a time, medical men frankly but cynically admitted that in the virtual absence of effective drugs, simply helping nature to takes its own course would, in many cases, have promised as good, if not better results. Pessimism was evident even though the tone of the doctors of the heroic age remained combative. Advocates of vigorous medical styles like Sir Thomas Watson,[431] who belonged to the dominant pathy, in the context of cholera epidemics, remarked:

> Never, certainly, was the artillery of medicine more vigorously plied – never was her troops, regular and volunteer, more meritoriously active. To many patients, no doubt, this busy interference made all the difference between life and death. But if the balance could be fairly struck, and the exact truth ascertained, I question whether we should find that the aggregate mortality was in any way disturbed by our craft.[432]

For Lebert, another commentator on medicine, "cholera in its well pronounced, typical, and perfectly developed form slays the half of all persons attacked," and that "internal medicines, according to all experience hitherto, have proved useless during the attack."[433] Perhaps this dismal record pertaining to cholera challenged Sarkar to tread a path different from what his professional bretheren had adopted.

But before we come to Sarkar's inheritance of the 'schism' in western medical thought and his delineation/ expatiation of cholera according to the 'new school' of medicine in the 1870s, let us recount the sufferings of the 1817 epidemic once again, to look at the early therapeutic encounters of medical men with cholera and with the indigenous systems of medicine.

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[431] Sir Thomas Watson was a great commentator of the regular dominant practice of medicine – i.e., allopathy. His *Lectures on the Principles and Practice of Physic* published in two volumes in 1843 by John W. Parker, London, remained a widely circulated textbook in the 1850s and after, and acquired a high reputation. Watson was a fellow of St. John's College, Cambridge and of the Royal College. He was also the physician of the Middlesex Hospital. The lectures that comprise the book were first delivered at King's College, London in 1836-7. They were subsequently serialized in the *Medical Gazette*. It is interesting to note that Watson belonged to the generation just next to Hahnemann's.

[432] Thomas Watson as quoted in Mahendra Lal Sarkar, *A Sketch of the Treatment of Cholera*, Calcutta: P Sircar Anglo Sanskrit Press, 1904 (2nd edition), pp. 53-54.

[433] Lebert as quoted in Ibid., pp. 53-54.

Early Encounters:

When after 1817, cholera reports were authored, the pursuit for a clue in therapeutics led many medical men to scan the Ayurvedic sources with the help of Vaidyans or indigenous medical practitioners. *The Cholera Report of the Madras Presidency* compiled by the Surgeon and Secretary to the Medical Board in 1824, cited the *Chintamani* authored, according to the Report, by the mythological sage Dhanwantri, as an important indigenous medical source. This text as per the Report, had references to a disease resembling cholera, and it was "classed under the generic term *'Sannipata'*, which includes all paralytic and spasmodic affections. The species of *Sannipata*, supposed to be spasmodic or epidemic cholera, (was) called *Sitanga*"[434] which was characterized by the "chillness like coldness of the moon over the whole body, vomiting, thirst, fainting, great looseness of bowels, and trembling of the limbs".[435] Another name for the spasmodic and epidemic cholera was *Vidhumar Vishuchi*. The *Vishuchi* was described as "most rapid in its effects; its symptoms were dimness of sight in both eyes, perspiration, sudden swooning, loss of understanding, derangement of the external and internal senses, pains in the knees and calves of the legs, griping pains in the belly, extreme thirst, lowness of bilious and windy pulses and coldness in the hands, feet and the whole body".[436]

One finds the reconciliation[437] of the symptoms of *Sitanga* and *Vishuchi* in the term *Bisuchika* that became synonymous with cholera. In the reconciliation of *Sitanga* and *Vishuchi*, one was considered to be the virulent form of the other. For the afflicted, death offered the final reconciliation in both. The kin of the afflicted were advised beforehand to prepare for the cremation of their sick relatives or neighbours under the spell of *Bisuchika*,

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[434] William Scott, *Report on the Epidemic cholera as it has appeared in the territories subject to the Presidency of Fort St. George. Drawn up by the order of the Government under the Superintendence of Medical Board,* Madras: Asylum Press, 1824, p. iii.

[435] Ibid., p. iii.

[436] Ibid., p. iii.

[437] Ibid., p. iii.

as the diseased "may (have to be) taken out to be burnt as he will not recover".[438] This pessimism ingrained in the *Ayurveda* towards cholera precluded the possibilities of the use of cures prescribed by the Ayurvedic texts of *Bisuchika*. These possibilities became dimmer and dimmer as the oriental romance of the earlier encounter ebbed away and derision towards the indigenous system of medicine slowly crept in.

Nevertheless, in the phase of the 'orientalist commitment', many lists and compendiums of native materia medicas were prepared. In the enumerative modalities of the indigenous pharmacopea by European medical men, there was an in built appropriative tendency. It was emphatically declared that "nearly all the articles of real efficacy used by the natives are found in our pharmacopea."[439] Moreover, as articles such as "*gamboge, impure calomel, pure corrosive sublimate, arsenious acid, senna, cassia fistula, sulphur, mercury, opium, musk, castor, croton-tiglium, rhubarb, turbeth root, jalap, impure potash and soda, the impure mineral acids* and several others"[440] were already in their (i.e. European) pharmacopea, there was no need to look towards the ridiculous prescriptions of the Vaidyans which, it was construed by analogy, to be based on the ***'paraselcian adage'*** (emphasis added). According to it, "relief depends not so much on remedial action as upon psychological imbuement through the medium of the preparer".[441] By this analogy of the 'paraselcian adage', the medical men of the dominant pathy equated their own '*empiricist tradition*' with Ayurveda and saw the 'native practice of physic' as an inferior science bordering on quackery.

During the cholera eruptions of November 1818, in Travancore, the Staff Surgeon Hay saw during his attendance, the presence of western medicine at Quilon as the sole guarantor of life and property. Hay's confidence in the efficacy of western medicine was bolstered and any expectancy of gaining knowledge from traditional medicine was undermined when he saw the Vythians (i.e. the Vaidyans) unscrupulously fleeing in the

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[438] T. A. Wise, *Commentary on the Hindu System of Medicine*, Calcutta: Thacker and Co., 1845, p. 330.

[439] R. H. Irvine, *A Short Account of the Materia Medica of Patna*, Calcutta: W. Pidsdale, Military Orphan Press. 1848, p. 2.

[440] Ibid., p. 2.

[441] R. H. Irvine, *A Short Account of the Materia Medica of Patna*, p. 3.

wake of *veshoo-u-geka*[442] eruptions at Tranvancore.[443] This cowardice on the part of the Vythians, for Hay, underscored the message that Ayurveda had no succour to offer to their dying bretheren. With a heightened sense of responsibility, Hay recounted in his evidence before the Madras Medical Board, of how he recruited and re-instated the native medical men in their professional roles as Vythians by arming them with ample instructions and medicines. In a self-congratulatory exercise, Hay delighted in his efforts towards co-opting the Vythians as the carriers of western medicine in the hinterland. Still, Hay feared high mortality owing to the 'general inattentive habits' of the native physicians in following his instructions. He was apprehensive that in spite of his instructions, the Vythians may flee in panic on the day of the epidemic visitation and trial, leaving the sick unattended and unassisted.[444] Moreover, owing to their unsuccessful treatment of this disorder, the native physicians were unable to save even a single person.[445]

In contrast to Hay, the Judge and Magistrate of Zillah Jessore C. Chapman, was more impartial in his account of the fleeing population while reporting about the cholera epidemic of 1817. Perhaps due to his professional training as a judge, he refrained from airing such a triumphalist account of the medicines employed. Chapman understood that the fleeing away of the population was not due to cowardice, but was more to be attributed to the "impossibility of affording any effectual medical aid from the suddenness of attack"[446], which he thought was enough to undermine the "spirits of (even) the stoutest

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[442] Another name for *Veshoo-u-geka* in Travancore was *Neer-comben.*

[443] William Scott, *Report on the Epidemic cholera as it has appeared in the territories subject to the Presidency of Fort St. George. Drawn up by the order of the Government under the Superintendence of Medical Board,* p. xvi.

[444] Ibid., pp. xvi and xvii.

[445] Ibid., pp. vi. Note: It is interesting to note that in another region of Kerela, after almost a century later i.e. in 1902, a Vaidyan established his reputation and redeemed Ayurvedic tradition by facing the cholera calamity in and around Kotakkal. He roamed around the region ministering and consoling the sick and administering them a self made tablet called 'Vishoochikari'. For details see Gita Krishnankutty's *A Life of Healing: A Biography of Vaidhyaratnam P. S. Varier*, Viking, Penguin India, 2001.

[446] Letter from C. Chapman, Esq., Judge and Magistrate, Zillah Jessore, to W. B. Bayley, Esq., Secy. to the Govt. in the Judicial Department, Fort William, dated Zillah Jessore, the 25th August 1817. Reprinted in *The Indian Annals of Medical Science*, Vol. 25-26, No. XXVI, 1869, p. 171; by D. B. Smith as 'Early Records of Cholera'.

heart".[447] He rationalized his own orders to close the court and sought the 'approbation' of this step from the government, as a preventive step taken "with the object of decreasing, as much as possible, the number of inhabitants in the town".[448] Though Chapman appreciated the 'active exertions' of the attending Assistant Surgeon Dr. Tytler to administer medicine, he emphasized that, prudence demanded that "every person who could obtain the means of conveyance (be) removed to a distance from this place and its neighbourhood"[449] as this was to usher in favourable change for the diseased and those who were predisposed to the disease.

For our present focus and concern, the pertinent question is about the medicines Hay and Tytler dispensed. What were these efficacious drugs on which Hay relied so heavily to arm the Vythians? Was it *calomel*[450] or was it *opium*?[451] Perhaps both, because they were regarded as the 'wondrous drugs' which were used liberally during the Jessore epidemic of 1817 by Dr. Tytler.

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[447] Letter from C. Chapman, Esq., Judge and Magistrate, Zillah Jessore, to W. B. Bayley, Esq., Secy. to the Govt. in the Judicial Department, Fort William, dated Zillah Jessore, the 25th August 1817. p. 171.

[448] Ibid., p. 171.

[449] Letter from C. Chapman, Esq., Judge and Magistrate, Zillah Jessore, to W. B. Bayley, Esq., Secy. to the Govt. in the Judicial Department, Fort William, dated Zillah Jessore, the 28th August 1817. Reprinted in *The Indian Annals of Medical Science*, Vol. 25-26, No. XXVI, 1869, p. 172; by D. B. Smith as 'Early Records of Cholera'.

[450] Calomel is nothing but mercury chlorides: 1. Mercury (I) chloride, mercurous chloride, calomel $Hg_2 Cl_2$, a white insoluble powder, m. p. 3°C, used in medicine and as a fungicide. 2. Mercury (II) chloride, corrosive sublimate $Hg Cl_2$, a poisonous white soluble salt, m. p. 276°C, used as an antiseptic and to make other mercury compounds.

[451] Opium was generally used Laudanum which is nothing but an alcoholic tincture of opium.

Heroic Therapy in Action:

Dr. Tytler relied on the "prompt exhibition of the calomel and opium".[452] "The consumption of calomel was so great"[453] that within the last twelve days of August 1817, the whole of calomel in Tytler's possession got expended and, as he had to resort to frequent borrowings, he signaled for immediate and speedy supply of calomel by Dâk from Fort William to save the already thinning population of Zillah Jessore.[454] Such a high consumption by the small population living under the shadow of cholera reveals the heroic doses that were being administered by Tytler. For the Surgeon, "It was gratifying to be acquainted with the fact that no example of failure has occurred, where, before the symptoms were allowed to proceed too far, recourse was had to the remedy prescribed – ***the free use of calomel*** (emphasis added), in the first instance, and ***opium*** administered in small doses when the vomiting was excessive and long protracted."[455]

The Medical Board at Fort William "approv(ed) the practice pursued by Dr. Tytler in the treatment of the disease".[456] The supply of calomel required by Dr. Tytler was transmitted to him without delay by Dâk. Tytler who had found the cause of cholera in the use of 'new rice' by the natives, went on to prescribe and administer large doses of calomel. Calomel rapidly established itself as a panacea, 'scruple after scruple of calomel'. A Madras Report of 1824 found that calomel was being "universally administered in

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[452] Letter from R. Tytler, Esq., M. D., Asst. Surgeon, to C Chapman, Esq., Judge and Magistrate, Zillah Jessore, dated Zillah Jessore, the 23rd August 1817. Reprinted in *The Indian Annals of Medical Science*, Vol. 25-26, No. XXVI, 1869, p. 172; by D. B. Smith as 'Early Records of Cholera'.

[453] Letter from R. Tytler, Esq., M. D., Asst. Surgeon, to C Chapman, Esq., Judge and Magistrate, Zillah Jessore, dated Zillah Jessore, the 31st August 1817. Reprinted in *The Indian Annals of Medical Science*, Vol. 25-26, No. XXVI, 1869, p. 174; by D. B. Smith as 'Early Records of Cholera'.

[454] Ibid., p. 174.

[455] Letter from R. Tytler, Esq., M. D., Asst. Surgeon, to C Chapman, Esq., Judge and Magistrate, Zillah Jessore, dated Zillah Jessore, the 20th September, 1817. Reprinted in *The Indian Annals of Medical Science*. Vol. 25-26. No. XXVI. 1869, p. 175-176; by D. B. Smith as 'Early Records of Cholera'.

[456] Extract of a letter from the Secretary to the Medical Board, dated the 6th September 1817. Reprinted in *The Indian Annals of Medical Science*, Vol. 25-26, No. XXVI, 1869, p. 175-176.

cholera (cases) from 15 to 20 generally 20 grains of dry calomel being placed upon the tongue, (which) was washed down by 100 drops of T. Opii (Tincture of opium)."[457]

Clearly, there was not one Tytler but many. Dr. Ayre once gave 580 grains of calomel in three days[458] and recorded no disagreeable effects. 'Heroic doses of calomel' "which under ordinary circumstances (would) have ***salivated*** (emphasis added) a troop of dragoons, and as much opium powder and tincture as would have ***stupefied*** (emphasis added) a company of infantry,"[459] were witnessed by Dr. Moor of Bengal army, as being prescribed by many doctors as late as 1850. It was not simply the quantity of calomel and opium which were used in alarming proportions. A large variety of liqours and decoctions of spices and aromatics added extra colour and effect to the heroic therapy in vogue. Did a malady arising from the consumption of 'new rice' require such heroic doses of drugs? Nevertheless, the brave doctors had set the stage for the employment of heroic therapy against the humbling symptoms of cholera.

As the spatial expanse and virulence of the 1817 epidemic increased, memorandums pertaining to the symptoms and the plan of treatment to be adopted, were issued to the surgeons and magistrates of the Presidency. Broad guidelines were made in English as well as in Bengalee, for the recruitment, guidance and compensation of the native physicians, so that the 'wondrous drugs' supplied could be transmitted far and wide, wherever the malady manifested itself. With the non-availability of doctors and surgeons at every choleraic place, any European officer or gentleman with his 'rational mind' was to be entrusted with the responsibility of supervising the native physicians in their administration of 'rational medicine'. Forty to fifty such native physicians were employed at Calcutta alone.[460] It was through them that the efficacy of western medicine was

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[457] William Scott, *Report on the Epidemic cholera as it has appeared in the territories subject to the Presidency of Fort St. George. Drawn up by the order of the Government under the Superintendence of Medical Board,* p. Ivii (i.e. p. 57).

[458] John Macpherson, *Cholera in its home with a sketch of the Pathology and Treatment of the disease*, London: John Churchill & Sons, 1866, p. 94

[459] Ibid., p. 94.

[460] Letter from R. Levy, Esq., Secy., Medical Board, to W. B. Bayley, Esq., Secy. to Govt., Judicial Dept. dated Medical Board Office, the 23rd September, 1817. Reprinted in *The Indian Annals of Medical Science*, Vol. 25-26, No. XXVI, 1869, p. 188.

established among the 'reluctant' and 'sly' natives. In Jessore, Tytler recommended 'small pecuniary' rewards for two such native doctor-interlocutors, Muhammad Zukee and Balram, for their laudable conduct and longstanding loyalty of thirteen and nine years respectively.[461] "Their exertions in administering the medicines and explaining the cause contributed, in an eminent degree, to the relief of the sick and removal of the disorder"[462] being attempted by Tytler.

As the general symptoms of this 'fell disease' were marked, the Medical Board sought to establish order among the 'diversity of opinion and practice' so that a general principle could be put forward. In the plan of treatment adopted, the first step was "to support the patient's strength,"[463] so that a way be prepared for the administration of medicine "to remove the irritability of stomach and bowels"[464], which was to be followed by the administration of evacuatives either as emetics or purgatives or both, in order "to expel the morbid secretions".[465] After this heroic regime of stimulants and evacuatives, it was thought expedient to fall back upon conservative methods "to restore the healthy action of the stomach before calling its digestive powers into action again".[466]

Basically, the mode of treatment entailed the use of stimulants and opiates. The former to restore confidence and the latter to prevent vomiting and purging. In between the stimulants and opiates, evacuatives were to be used to get ride of the 'morbific matter'. Clearly, inconsistency and uncertainity were the chief features of the treatment plan, and this lent space for varied interpretations of the disease as per the after effects of the various

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[461] Letter from C. Chapman, Esq., Judge and Magistrate of Zillah Jessore, to W. B. Bayley, Esq., Secy. to the Govt. in the Judicial Department, Fort William, dated Zillah Jessore, the 3rd October 1817. Reprinted in *The Indian Annals of Medical Science*, Vol. 25-26, No. XXVI, 1869, p. 197; by D. B. Smith as 'Early Records of Cholera'.

[462] Letter from R. Tytler, Esq., M. D., Asst. Surgeon, to C. Chapman, Esq., Judge and Magistrate, Zillah Jessore, dated Zillah Jessore, the 1st October 1817. Reprinted in *The Indian Annals of Medical Science*, Vol. 25-26, No. XXVI, 1869, p. 196.

[463] Memorandum from W. B. Bayley, Esq., Secy. to Govt., Judicial Dept. dated the 23rd September, 1817. Reprinted in *The Indian Annals of Medical Science*, Vol. 25-26, No. XXVI, 1869, p. 183.

[464] Ibid., p. 183.

[465] Ibid., p. 183.

[466] Ibid., p. 183.

drugs, leading in turn to more confounding permutations and combinations of drugs administered on a hit and trial basis.

As the first step of the treatment plan, stimulants like spirituous liqours and, in urgent cases, spirits of hartshorn or ether were used. In common cases, a Maderia – glassful of brandy with an equal quantity of water – was used to revive the patient so as to halt the immediate danger of sinking.[467] Sometimes, ***brandy undiluted*** (emphasis added) was also used or recourse was had to "one drachm of aether or two of spirits of hartshorn in one ounce of water".[468] These stimulants were to restore a degree of animation to the sinking patient. For respite from vomiting, stimulants were to be followed up by opiates. "Fifteen drops of laudanum[469] in two tea spoonful of water"[470] was prescribed; and if vomiting did not subside the dose was to be increased after every subsequent attack of vomiting. A "second dose of 20 or 25 drops; third dose of 30 to 40 drops and so on after each attack of vomiting"[471] was to be administered. Opium moistened with water or spirit was applied externally to the stomach, especially the upper part of the belly, and was thought to help in stopping vomiting.

Through the use of stimulants, the way was paved for purgative medicines that were administered "with the view of expelling the morbid secretions of the intestines, calomel (the blue pill), readily suggested itself as an appropriate remedy".[472]

As alluded to earlier, the risk of salivation did not deter the use of calomel in large doses. It "(had) from the first been very largely used in India and in two ways: in scruple or (increasingly) larger doses, as it has been used in dysentery with the apparent effect of quieting the stomach and bowels."[473] The doses generally varied randomly. At the same

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[467] Memorandum from W. B. Bayley, Esq., Secy. to Govt., Judicial Dept. dated the 23rd September, 1817. Reprinted in *The Indian Annals of Medical Science*, Vol. 25-26, No. XXVI, 1869, p. 183.

[468] Ibid., p. 183.

[469] Laudanum is an alcoholic tincture of opium.

[470] Memorandum from W. B. Bayley, Esq., Secy. to Govt., Judicial Dept. dated the 23rd September 1817, p. 183.

[471] Ibid., p. 183.

[472] Ibid., p. 183.

[473] John Macpherson, *Cholera in its home with a sketch of the Pathology and Treatment of the disease*, p. 124.

time, calomel was administered "in smaller doses for its supposed chalogogue effects."[474] In contrast, many advocated its full dose because, in their opinion, "given in full dose (calomel) was often retained by the stomach and, though (it remained) inert during collapse"[475], its latent therapeutic effects were to unfold during the time of reaction, and this was vital for the retrieval of the patient from the jaws of death.[476]

Further, in order to preserve the retentivity of calomel in the stomach, opium was combined with it. Calomel was combined with opium to prevent the mercury from running off by the bowels[477] since opium also acted as a binding agent. So, a supposed purgative was cancelled by a binding agent for its supposed effects during the stage of reaction. But as different people had varying degree of tolerance, the remedy (i.e. calomel) became, many a time, dangerous and unmanageable. Nevertheless, calomel and opium allowed the medical men to ride the tide of triumphalist medicine. A majority of them penned its efficacy with glee, only a few questioned its rationale. For most of them, it made the 'violent malady' admit to speedy remedy. Calomel was such a magic drug that "with his large doses of it ...Mr. Corbyn lost only two out of 110 cases of cholera".[478] A few cautious medical men expressed suspicion about the purgative effects of calomel but for the defenders of the drug, "it was not used for its purgative effects."[479]

In contrast, practitioners like Mr. Craw were convinced that "after ***bleeding*** (emphasis added) and bath, a powerful purgative (and nothing more powerful than calomel existed) and a strong catharatic enema would have a much better effect than narcotics, the debility being imaginary".[480] For some medical men, neither strong emetics nor purgatives

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[474] John Macpherson, *Cholera in its home with a sketch of the Pathology and Treatment of the disease*, p. 124.

[475] Ibid., p. 124.

[476] Ibid., p. 124.

[477] Phillip A. Nicholls, *Homoeopathy and the Medical Profession*, London: Croom Helm, 1988, p. 85.

[478] John Macpherson, *Cholera in its home with a sketch of the Pathology and Treatment of the disease*, p. 124.

[479] Ibid., p. 108.

[480] Ibid., p. 108.

were necessary to avert cholera, as their combination did not yield favourable results. Even doctors at the metropole sometimes expressed their suspicion. Dr. Mackintosh of Drummond-Street Hospital was not clear about the use of purgatives. He refrained from stating "the fact too strongly that purgatives are dangerous remedies".[481] Other medical men questioned the theoretical premise for the use of such remedies and, in their self critical evaluation, admitted that the "theory of disease which (had) chiefly led to its employment (was) not supported by anatomical facts, (and that) it was administered only on empirical grounds".[482] In their evaluation, "there appeared to be no argument in favour of its exhibition either from analogy or pathology".[483]

Nevertheless, the treatment of cholera by the heavy use of calomel, laudanum, and stimulants was termed as a 'rational method' of treatment. Many doctors in their heroic spirit to dominate and tame the disease, overemphasized the 'curative effects' of opium, and exhorted their professional bretheren "not (to) shrink from its use from the dread of its ulterior consequences".[484] Ulterior consequences in the form of secondary symptoms from all the above drugs were thought to be minor problems which were to be managed and targeted separately.

The above mentioned 'magic drugs' were often laced with many indigenous ones. *Cherayata, Rhubarb*, and calombo root powder were simultaneously administered as part of the 'rational medicine'.[485] Many more indigenous concoctions, expressed in native idioms, were added to the instructions issued for native physicians who were to encounter the disease where European medicines and assistance were not procurable. They were advised to administer a *rutty* of opium dissolved in water and at every quarter of Bengal *gurree*, until the vomiting and purging ceased. One *chittack* of Bengal rum with two

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[481] John Macpherson, *Cholera in its home with a sketch of the Pathology and Treatment of the disease*, p. 109.

[482] William W. Gull, *Report on the Morbid Anatomy, Pathology, and Treatment of Cholera*, Churchill Publications, 1853, p. 175.

[483] Ibid., p. 175.

[484] John Macpherson, *Cholera in its home with a sketch of the Pathology and Treatment of the disease*, p. 114.

[485] Memorandum from W. B. Bayley, Esq., Secy. to Govt., Judicial Dept. dated the 23rd September, 1817. Reprinted in *The Indian Annals of Medical Science*, Vol. 25-26, No. XXVI, 1869, pp. 184-85.

chittack of warm water was generally advised until the debility and coldness was overcome. This could be substituted with "watery decoctions of *pepper*, and such other warm aromatics and spices as could be procured, or any of such decoctions such as *Punch-cole* and *Dusmoolpaunchun*, or any of the stimulant medicines...such as *Sawchagyo, Chintamoney*, with *Russasindoor* and juice of raw ginger".[486] As purgatives, *aloes, rhubarb* mixed together in pill form from six rutties of each, yielding up to five pills, could be administered at short intervals. *Senna* and *Hureetoke* mixed and boiled with half a seer of water could also serve as purgatives.[487]

As it was difficult to account for the phases of cholera in every individual case during an epidemic, the doctors heavily relied on the heroic doses. Conflicting modes of treatment characterized by the hit and trial method and, the desire to have quick results against a 'fell disease', enhanced the propensity to rely upon heroic doses of mixed categories of drugs. "Anything like ***unmixed treatment*** (was) never tried – ***purgatives solely, narcotics solely, emetics solely***, (was never the case), (as) there was always a mixture of remedies (emphasis added)."[488] Skeptical medical men simply gave in when the disease did not yield to the heroic doses, and, in their opinion, "when collapse has once (been) established, purgatives like calomel, castor oil, colocynth and jalap were like all other remedies ***inert*** (emphasis added)."[489]

Not only were varieties of drugs to be tried, various other ameliorative measures were also to be adopted simultaneously. In their combative strategies, physicians, it was observed, "should not rest content with the application of ***any single remedy*** (emphasis added); (results could be) accomplished most effectually and rapidly by a combination of measures. The warm-bath, blood-letting, and large doses of calomel and laudanum (were

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[486] Instructions for Native Doctors in the Treatment of the Cholera morbus, in the Mofussil, where European medicines and assistance are not procurable. Reprinted in *The Indian Annals of Medical Science*, Vol. 25-26, No. XXVI, 1869, pp. 192-93; by D. B. smith as 'Early Records of Cholera.'

[487] Ibid., pp. 192-93.

[488] John Macpherson, *Cholera in its home with a sketch of the Pathology and Treatment of the disease*, p. 105.

[489] Ibid., p. 109.

not only) to be immediately prescribed"[490], but if possible simultaneously prescribed. "If bath be ready prepared, the patient should be placed in it, and during immersion he may take the dose of medicine and have the blood-letting performed. One remedy, however, should not wait upon another; the first at hand should be administered first."[491] For blood-letting, a sufficiently large orifice was made in the vein; many a times it was advisable to open the vein in both arms and the patient was bled in the upright position.[492] Bleeding or venesection was not just a therapy, it was also a 'diagnostic tool' i.e. from the amount and after effects of bleeding, the stage of the disease and its prognosis were to be determined. "Apart from the practice of general bleeding, which remedied general plethora, local bleeding was done with the help of leeches or by sacrification and cupping."[493] Since references to leeches are wanting in the literature on cholera, the later mode can be assumed to have been the plausible method.

Though in the medical literature of the 19th century bleeding as a remedy was classed as evacuants, in choleraic cases, "it was used to relax spasm, relieve venous congestion, with a vague notion 'that it might interrupt vitiated visceral secretions' and ...chiefly to relieve the circulation and respiration".[494]

John Macpherson, the Deputy-Inspector General of Hospitals of the Bengal Army, on his arrival in India found venesection as the common practice in Calcutta and, in an epidemic in 1842, he himself gave it a fair trial in a good number of cases.[495] Dr. G. H. Bell did not give up the practice of repeated bleedings until his death.[496] Some medical men were of the opinion that, for Europeans and robust natives, under the initial stage of

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[490] James Kennedy, *The History of the Contagious Cholera; with facts explanatory of its origin and laws of a Rational Method of Cure*, London: James Cochrane and Co., 1831, p. 175.

[491] Ibid., p. 175.

[492] Phillip A. Nicholls, *Homeopathy and the Medical Profession*, p. 81.

[493] Ibid., p. 82.

[494] John Macpherson, *Cholera in its home with a sketch of the Pathology and Treatment of the disease*, p. 119.

[495] Ibid., p. 120.

[496] Ibid., p. 119.

attack, nothing helped like bleeding and that "it was more successful than any other remedy, in cutting short the disease: usually resolving spasms; allaying the irritability of the stomach and bowels; and removing the universal depression under which the system laboured".[497]

These gleanings from the cholera treatises and reports convincingly proves the point that the average treatment, with minor omissions, remained 'wonderfully uniform' and the remedial armament retained its *'polypharmatic' flavour* for the larger part of the 19th century. It becomes fairly clear that most practitioners relied on a few great 'sheet anchors' like calomel, laudanum and other specific purgatives and emetics. Novelties like the "saline enemata, the successor of saline injections into the veins",[498] were tried all along but it could not yield results. How this technique evolved over time to become a standard rehydrating mechanism in the first quarter of the 20th century, is not well documented in the cholera literature of the 19th century. However, practices like para-boiling and blood-letting were gradually abandoned after the 1860s.

Our delineation clearly shows that if the indigenous therapeutics were characterized by the sin of polypharmacy,[499] dominant western, or regular medicine's, or more particularly, allopathy's record was as sinful, if not more, where prodigious number of drugs, with sometimes opposing effects, were included in one prescription. The chaotic and fatally heterogeneous nature of cholera prescriptions was frankly conceded by many medical men. Despite the triumphalist and combative stance of a majority of the medical men, cholera epidemics acted as a leveller, in a sense that, both the patients and the doctors shared the same sense of anxiety. "In medicine we are like our patients, very apt to exaggerate the effects produced by our remedies."[500] Macpherson concurred with Bauchardat's observation "that many modes of treatment have been applied without much

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[497] J. Johnson and J. R, Martin, *The influence of Tropical Climate on European Constitutions*, S. Highly. 1841 (6th edition), p. 344.

[498] John Macpherson, *Cholera in its home with a sketch of the Pathology and Treatment of the disease*, p. 99.

[499] It was generally alleged by European medical men that the indigenous system of medicine especially Ayurveda was 'chaotic' in its drug prescription owing to its adherence to polypharmacy.

[500] John Macpherson, *Cholera in its home with a sketch of the Pathology and Treatment of the disease*, pp. 101-102.

discrimination, few as calmly and philosophically as might have been desired, (it) is not astonishing in the case of a disease like cholera, which is said to commence with death."[501]

The cholera documents are in fact replete with the anxieties of the 'embattled minority', but the anxieties of the vast majority plagued by this disease, was underplayed by the cultural rhetoric invoked against them. Were they inherently slothful, fatalistic and an enfeebled race, or did the "absolute depots of pills"[502] found in their alimentary canal decimate them?

The heroic history of cholera therapeutics allows us to understand the ways of 'colonizing the body'. Do the crude census and the culturally informed or misinformed cholera reports actually mirror the horrors of the mercurous compounds which the dominant medicine poured down the throats of the vast native population? Do they provide any account of the extent to which the native constitutions were ruined, or the number of the delicate and old murdered by those 'efficacious drugs'?[503] Is there any assessment of the cases of debility accentuated and perpetuated by those opiates and stimulants?

Under the environmental paradigm in general, and the maismatic theory in particular, extensive statistical tabulation and analysis with regard to cholera mortality and its relationship with seasonal and climatic specificities were made. Parameters like humidity, temperature, and wind directions were accounted for. Based on these, topographical maps were drawn for the selection of cantonment sites, but the 'rational' commitment of the dominant 'pathy' did not engage itself with the statistical analysis of the effects of its treatment. "Statistical results of treatment would have helped us"[504], as some doctors had realized. They hoped "to judge of the value of the huge ***armamentum*** (emphasis added) of remedies"[505] of which only a fragment was displayed in our

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[501] John Macpherson, *Cholera in its home with a sketch of the Pathology and Treatment of the disease*, pp. 100-101.

[502] Ibid., p. 95.

[503] Ibid., p. 103.

[504] John Macpherson, *Cholera in its home with a sketch of the Pathology and Treatment of the disease*, p.103.

[505] Ibid., p. 103.

description. Nonetheless, the cholera archive does not provide us any proof that such hopes of some of the lamenting doctors were ever sought to be realized.

The Hahnemannian Interlude:

At a theoretical level, it was understood and frankly admitted by the regular practitioners of medicine that, in the case of cholera, as "in many other diseases, the mode of practice has often originally been ***purely empirical*** (emphasis added) and theory of its operation has afterwards been formed".[506] Even then, the medical men of the 'heroic age' dismissed the empiricist tradition present in their own medical thought and in the indigenous system of medicine with derision, as 'paraselcian adage'.

Many a times when the allopath practitioners could not explain the failure of a particular class of remedies employed, they attributed its unsuccessful use to the cardinal dogma of the empiricists, which, in their opinion, had contaminated their medical thought and practice. Not able to explain their reliance on the heavy use of the evacuative class of drugs in the cases of cholera, the rationalist strand shifted its blame to the empiricist strand. In the wake of the unfavourable results of the evacuants in cholera, Macpherson pleaded innocence on behalf of his professional colleagues, thus: "If, then, we adopt the evacuant treatment at all, it is not from our experience of its good effect in kindred diseases; it can only be on some ill defined notion of eliminating a poison, or by the practical application of dogma ***'Similia Similibus curantur'*** (emphasis added)."[507]

This reveals how uncertain and inconsistent the regular medicine was about its own therapeutic rationale. To gauge how suspicious and how vindictive the adherents of one

[506]John Macpherson, *Cholera in its home with a sketch of the Pathology and Treatment of the disease*, p. 102.

[507] John Macpherson, *Cholera in its home with a sketch of the Pathology and Treatment of the disease*, p.107.

strand of medical thought were about the other, we will in the following few pages very briefly talk about Samuel Hahnemann's revolt[508] from the dominant and regular mode of pathy and his founding of a new pathy called 'homoeopathy', based on the maxim ***'Similia Similibus curantur'*** (emphasis added) – let likes be treated by likes. In contrast to this epithet, "regular medicine generally prescribed ***allopathically*** (emphasis added), (where) treatment was based on principles ***other*** (from the Greek word 'allos', emphasis added) than symptom similarity. Typically allopathic medicine (tried) to remove or oppose disease causes, and to suppress or palliate symptoms".[509]

We have seen in the case of cholera therapy, how in order to tame and dominate the disease, it relied on heroic doses in an arbitrary manner. For the entire 18th and a major part of the 19th centuries, most of the diseases were classified by the then prevailing regular medicine as inflammatory and prescribed an anti-inflammatory treatment to counter them.[510] The heroic and repeated regimen of the regular medicine, in a majority of the cases, opposed inflammatory diseases systemically through the mechanistically, opposite or anti-inflammatory effects of venesection, leeches, cupping, purges, emetics, mercury, opium and blisters.[511] We have seen in our documentation of the therapies for cholera, how allopathy prescribed powerful drugs in such powerful doses to produce violent reactions in the patient, matching the power of disease with that of the remedy and the concomitant propensity of the body to manifest many secondary symptoms and iatrogenic complications.

In the context of the prevailing heroic therapies with its indiscriminate purging, drugging, and blood-letting, Hahnemann had started to question his own convictions as an allopath about the crude ways in which medicine was being practiced. In his letter to a

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[508] The consideration of Hahnemann's revolt is important because the Hahnemannian questions will echo once again when we talk about M. L. Sarkar's conversion to Homoeopathy. Both Hahnemann and Sarkar were trained doctors of the regular dominant medicine. Both had to grapple with cholera, the former in the first half of the 19th century had an indirect encounter with it; the latter in the second half of the same century had a direct encounter with the malady.

[509] Phillip A. Nicholls, *Homoeopathy and the Medical Profession*, p. 3.

[510] Ibid., p. 87.

[511] Ibid., p. 87.

physician of high standing on the great necessity for a ***regeneration*** in medicine, Hahnemann poignantly revealed his feelings:

> It was agony for me to walk always in darkness, with no other light than that which could be derived from books, when I had to heal the sick, and to prescribe, according to such or such an hypothesis concerning diseases, substances which owed their place in the materia medica to an arbitrary decision. I could not conscientiously treat the morbid conditions of my suffering bretheren by these unknown medicines, which being ***very active substances*** (emphasis added), may (unless applied with the most rigorous exactness, which the physician cannot exercise, because their peculiar effects have not yet been examined) so easily occasion death, or produce affections and chronic maladies, often more difficult to remove than the original disease. To become thus the murderer or the tormentor of my bretheren was to me an idea so frightful and overwhelming, that soon after my marriage, ***I renounced the practice of medicine*** (emphasis added), that I might no longer incur the risk of doing injury, and I engaged exclusively in chemistry, and in literary occupations. But I became a father, serious diseases threatened my beloved children, my flesh and my blood. My ***scruples redoubled*** (emphasis added) when I saw that I could afford them no certain relief.[512]

In an age when drug affliction had become a malady in itself, Hahnemann continued to articulate his feelings regarding the uncertainities of medical practice, as "in the practice of medicine a great deal that (was being administered to the patients) was not (yet) proved"[513] to be efficacious. "Confusion in the laws of medicine (was) a continual source of annoyance"[514] to him. Moreover, it should be borne in mind that he was "a thoroughly well-posted physician, skilled both in theory and practice, better read in various notions of the medical books of the time than most of his fellows".[515] He, besides being a physician, also held the position of '***Stadtphysikus***', i.e., he also had the power to supervise and control the pharmaceutical chemists and their drug shops and stores under his jurisdiction.[516] "He was also a surgeon; his treatment of necrosis by scraping the bone

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[512] Thomas Lindsley Bradford, *The Life and Letters of Dr. Samuel Hahnemann*, Calcutta: Roy Publishing House, 1970 First Indian edition (First Published in 1895), p. 33. I have quoted at length from this letter because it contains all the seeds of Hahnemann's formulation of homoeopathy.

[513] Ibid., p. 33.

[514] Ibid., p. 35.

[515] Thomas Lindsley Bradford, *The Life and Letters of Dr. Samuel Hahnemann*, p. 35.

[516] Ibid., p. 35.

proves that,"[517] yet, he was thoroughly disgusted with the mode of physik of his age. "How", lamented Hahnemann, "can we complain of the obscurity of our art when we ourselves render it obscure and intricate?"[518]

He began to raise fundamental questions regarding the philosophical underpinnings of the dominant medicine. It should be remembered that Hahnemann's philological expertise[519] allowed him to become an exceptional scholar in the history of medicine, botany,[520] and chemistry[521] and his larger intellectual commitment had a different pedigree and lineage. Instead of adhering to the rationalist Galenic tradition (which in his age was heavily influenced by the Mechanistic view of the human organism, leading to its mechanistic appreciation of pathology, and desiring powerful mechanical effects in remedies to oppose, dominate, and tame diseases), Hahnemann, in order to resolve his questions about the heroic therapies and its murderous regime, gravitated towards the faint and subdued empirical tradition of Greek medicine.[522] In him we see the revival and strengthening of this tradition which ultimately culminated in his founding of a new school of medicine.

The Mechanistic and the Vitalistic:

Before we come to the cardinal laws of homoeopathy, it will be worthwhile to elaborate a little on the vitalistic understanding of the body and diseases in contrast to the

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[517] Thomas Lindsley Bradford, *The Life and Letters of Dr. Samuel Hahnemann*, p. 35.

[518] Benj. C. Woodbury, Jr., 'The Homeopathic School of Medicine' in *The Indian Homeopathic Journal* with which is incorporated the *Madras Homeopathic Journal*, Vol. III, No. 2, February 1952, p. 152.

[519] At the age of 22 years, Hahnemann was a master of Greek, Latin, English, Hebrew, Syraic, Arabic, Spanish, German, and some smattering of Chaldaic.

[520] Hahnemann always expressed gratitude to Schreber who taught him botany at the University of Erlangen.

[521] Non other than the great Chemist Berzelius once said about Hahnemann, "That man would have made a great chemist, had he not turned out a great quack." Quoted from Thomas Lindsley Bradford, *The Life and Letters of Dr. Samuel Hahnemann*, p. 29.

[522] Both the empirical and rationalist perspectives were present in the eclectic Hippocratic corpus. At practical level, it contained both the principles of medicine i.e. the principles of '***Contraria Contraries curantur***' and ***Similia similibus curantur***'.

mechanistic. This will allow us to appreciate Hahnemann's disgust with the antagonistic therapies of the heroic age and his efforts to establish a higher ideal of cure which, according to him, was to be "(the) rapid, gentle, and permanent restoration of health, or removal and annihilation of the disease in its whole extent, in the shortest most reliable, and most harmless way, on easily comprehensible principles."[523] In this section, we will briefly capture the philosophical underpinnings of the new therapeutic option which Hahnemann promulgated.

The regular dominant medicine followed the Cartesian-Mechanistic conception of the living organism. According to it, the human body was a complex piece of machinery. The parallel with 'machinery' was drawn not merely to suffice for an analogy. The human body was regarded as a machine in the literal sense of the word. "The human organism is not merely like a machine; it is not even the case that for medical purposes, it might be usefully considered as a machine – ***it is a machine*** (emphasis added)." [524] The body was approached by what in today's parlance is called a systems approach. This mechanistic perspective also served as the basis of disease classificatory exercises – i.e. nosology. Now, "if (the) human body is a machine," then the obvious corollary which followed (was) that "sickness is a mechanical disorder".[525] As all "human machines were essentially identical (and were) liable to common and recurring malfunctions of the constituent parts,"[526] the classification and elaboration of standardized categories of disease or class of diseases was made the basis of therapeutic endeavour and intervention. It is evident that in the mechanistic perspective, the body was not a whole and there could be no individuality accorded to sickness. This perspective in a sense refrained from according subjecthood to the body. The natural wisdom of the body against diseases was not given much importance.

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[523] Samuel Hahnemann, *Organon of Medicine*. Translated by William Boerick, New Delhi: B. Jain Publishers (Indian Reprint), 1979, 6th edition (First published in 1843), p. 92.

[524] Phillip A. Nicholls, *Homoeopathy and the Medical Profession*, p. 57.

[525] Ibid., p. 58.

[526] Ibid., p. 58.

Conversely, for Hahnemann, the body was not the sum total of parts; it was not the summation of the various systems. For him, the human body, the house of both health and sickness, was a whole. He rejected the mechanistic perspective and argued for a 'vitalistic' appreciation. "In the healthy condition of man, the spiritual vital force (autocracy), the dynamics that animates the material body (organism), rules with unbounded sway, and retains all the parts of the organism in admirable, harmonious, vital operation, as regards both sensations and functions, so that our indwelling, reason-gifted mind can freely employ this living, healthy instrument for the higher purposes of our existence."[527] Clearly, it is the vital force that animates the material organism in health and in disease and, for Hahnemann, "the material organism, without the vital force is capable of no sensation, no function, no self-preservation; it derives all sensation and performs all the functions of life solely by means of the immaterial being (the vital principle) which animates the material organism in health and in disease."[528]

In a diseased state, i.e., "when a person falls ill, it is only this spiritual, self-acting (automatic) vital force, everywhere present in the organism, that is primarily deranged by the dynamic influence upon it of a morbific agent inimical to life."[529] So, disease, as viewed by Hahnemann, was a vitalistic problem affecting and implicating both the physical and mental dispositions. Since the vital force is all pervasive, both the mental and physical symptoms are important. The symptoms are the manifestations of the deranged vital force and ***they primarily constitute the disease***. Hahnemann elaborates that "it is only the vital principle deranged to such an abnormal state, that can furnish the organism with its disagreeable sensations, and incline it to the irregular processes which we call disease."[530] The physician's art constitutes the reading of 'these disagreeable sensations' which are manifest as the *morbid symptoms* caused due to the derangement of the vital force. As this vital force in the deranged state is "invisible in itself and (is) cognizable by its effects on the organism, its morbid derangement only makes itself known by the

[527] Samuel Hahnemann, *Organon of Medicine*, pp. 97-98.

[528] Ibid., p. 98.

[529] Ibid., p. 98.

[530] Samuel Hahnemann, *Organon of Medicine*, pp. 98-99.

manifestation of disease in the sensations and functions of those parts of the organism exposed to the senses of the observer and physician, this is, by morbid symptoms".[531] The empiricist strain in Hahnemann is more than evident as, for him, through "no other way can it make itself known,"[532] and so the morbid signs and symptoms are to be collated with the sensations and sufferings articulated by the patient. These in totality constitute the disease. "The affection of the diseased vital force and the disease symptoms thereby produced constitute an inseparable whole – they are one and the same,"[533] and the "practitioners, therefore, only needs to take away the totality of the disease signs, and he has removed the entire disease".[534] For Hahnemann, it was not conceivable, nor provable "by any experience in the world, that, after the removal of ***all the symptoms of the disease*** (emphasis added) and of the entire collection of the perceptible phenomena, there should or could remain anything else besides health, or that the morbid alteration in the interior could remain uneradicated."[535]

Clearly then for Hahnemann, any disease was always the disease of the whole organism. It was individualistic. Treatment, therefore, needed to be focused on the whole person whose individualistic responses to the disease made allopathic 'nosology' redundant. Moreover, since the vital force was responsible for the harmony and equilibrium of the body, the morbid signs and symptoms of the body could be viewed as an expression of the body's attempt to restore normality. The task of the physician was to assist in the restorative process. Help but do not harm the patient was the underlying message given out by Hahnemann. In his view, it was dangerous to disturb the body violently by heroic intervention. As the body naturally reacted to morbidity, the aim of any therapy was to assist the body's own restorative and curative processes and the treatment was to emerge from the observable phenomena of the 'signs and symptoms'. This is to say that, in Hahnemann's perception, therapy was actually subsumed within the diagnosis and,

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[531] Samuel Hahnemann, *Organon of Medicine,* p. 99.

[532] Ibid., p. 99.

[533] Ibid., p. 21.

[534] Ibid., p. 21.

[535] Ibid., p. 97.

therefore, the morbid signs and symptoms were to be read positively. The physician was to walk hand in hand along the curative process initiated by the body. According to the homoeopathic principles, the physician had no right to impede the 'homeostatic activity of the human organism'. By dominating the disease or by entertaining the idea of conquering the disease by its palliative but shortcut opposition, allopathy tries to 'substitute the physician's wisdom for the wisdom of the body'.[536]

In contrast to the rational mechanistic tradition that wants to control and dominate the disease, the empirical tradition in medical thought always subordinates itself to the nature of the human organism. It reads the manifestation of the disease as a positive symptom. In the rationalist tradition, diagnosis and therapy are two separate spheres. The therapy has to oppose the diagnosed symptoms by attacking that particular site or that particular system where the functional disorder is located. In the empirical tradition, therapy is subsumed within the diagnosis, because here the physician aids and walks along with the body's natural, curative or restorative processes of adjustment. Since such medication focuses on the encouragement of the body's curative process, a similar remedy in small doses is administered in order to offer the vitalistic response a little extra aid to come to terms with the disease. It relies on the self-limiting properties of the morbid symptoms which are nothing but the manifestation of the vital derangement that the body itself is in the process of curtailing.[537]

In the outlined 'vitalistic' spirit with its 'empiricist' philosophical underpinnings, Hahnemann started abhorring the suppressive, combative medical measures which entailed the administration of large doses and which fostered 'needless purgatorial suffering'. He lamented, "traditional medicine and surgery is a much too shamefully cruel business."[538] He drew the attention of his pupils towards the agonizing fact of how the regular allopaths were teaching "to mistreat cholera and (to) make it fatal with blood-letting to 30 ounces, quantities of leeches and calomel to the extent of three or four drachms, on a false theory and after the example... of ***the best physicians in the world – the English*** (emphasis

[536] Phillip A. Nicholls, *Homoeopathy and the Medical Profession*, pp. 3-36.

[537] Ibid., pp. 3-36.

[538] Thomas Lindsley Bradford, *The Life and Letters of Dr. Samuel Hahnemann*, p.259.

added)."[539] Blood-letting was such an established practice that Hahnemann was "denounced as murderer because he denied his patients the benefits of bleeding".[540]

On the general evacuant treatment (blood-letting was just a variety of it) which was the accepted medical regimen for cholera, Hahnemann says,

> The principal manoeuvre of the humoral school consisted in the evacuation of bad blood (bleeding mania) and in the expulsion of the impure fluids by the mouth and anus. How? Did they pretend to let out the impure blood only? What magician's wand could separate, as through a sieve, the depraved from the good blood within the blood vessels, so that only the bad could be drawn off and the good remain? What head is so rudely organized as to believe that they could effect this? Sufficient for them that streams of blood were split – of that vital fluid for which even Moses showed so much respect, and that justly.[541]

Clearly, he was against the employment of blood-letting in cholera. Hahnemann was also against the use of calomel and other purgative in such fatal doses. He had no direct encounter with cholera but, on the basis of the symptoms of the disease communicated by his followers, he advocated camphor and was delighted by the fact that nature had provided this in abundance in the land from where cholera was supposed to have emanated. We will come to Hahnemann's advice on cholera a little later. Meanwhile let us return to Hahnemann's considerations about his new pathy.

In the initial years of his disenchantment with the allopathic use of heavy doses of medicine, Hahnemann started using only the remedies called 'specifics', "whose effects were in a measure known. (As) their physiological action was, however, but little understood,"[542] he indulged, in a big way, in what was called 'drug proving' on healthy human beings. Through this he wanted to ascertain the accurate account of the powers of medicine by assessing the physiological action they fostered and the consequent 'symptom picture' they generated. Hahnemann was always weary of and abhorred polypharmacy. "The day of the true knowledge of remedies and a true system of therapeutics will dawn

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[539] Ibid., p. 259.

[540] Ibid., p. 255.

[541] Ibid., pp. 255-256.

[542] Thomas Lindsley Bradford, *The Life and Letters of Dr. Samuel Hahnemann*, p. 35.

when physicians shall abandon the ridiculous method of mixing together large portions of medicinal substances whose remedial virtues are only known speculatively or by vague praises, which is in fact ***not to know them at all*** (emphasis added)."[543]

He drew attention to the fact that it was unscientific for doctors to employ untried remedies on individuals who were diseased and to draw conclusions about the efficacy of the drug from the medley that results.[544] Remedies, said Hahnemann, should be administered in health – in 'the pure, uncomplicated state' – the observable symptoms they produce provide a certain guide to their powers when one is sick.[545] He exhorted to ***'eliminate the cross-currents of disease'*** (emphasis added) and then to note the pure and uncomplicated symptoms resulting from drug administration in a healthy human being.[546] "Here", he pointed out, "is the clear and faithful account of the powers of the remedy. And this is pure homoeopathic plan (of) trying and proving (a) remedy."[547]

On the basis of the maxim 'let likes be cured by likes', if a drug given to a healthy volunteer cause the presenting symptoms of the patient i.e., if the administered drug arouses the similar symptoms in health as is presented in a disease, that drug is adminstered in very low dilutions as a cure to the patient.[548] To revise the prevailing polypharmacy, Hahnemann proposed three points:

> (i) That the scientific mode of ascertaining drug action upon human being is by experimenting them upon a healthy individual. (ii) That the healing properties of drug correspond to its disease – producing properties upon the healthy human organism and (iii) That as a necessary consequence of the above two proposition the drug must be administered in such a dose that will not produce too great an aggravation of the exciting or natural disease.[549]

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[543] Thomas Lindsley Bradford, *The Life and Letters of Dr. Samuel Hahnemann*, p. 99.

[544] Sharat Chandra Ghose, *Life of Dr. Mahendra Lal Sircar*, Hahnemann, Calcutta, 1935, p. 133.

[545] Ibid., p. 133.

[546] Ibid., p. 133.

[547] Ibid., p. 133.

[548] Andrew Vickers and Catherine Zollman, 'Homoeopathy', Selections from *British Medical Journal*, Vol. 15, February 2000,p. 913; also see *British Medical Journal* Vol. 319, 23rd October 1999, pp. 1115-1118.

[549] Sharat Chandra Ghose, *Life of Dr. Mahendra Lal Sircar*, p. 136.

So, for Hahnemann, *'Similia Similibus curentur'* was the expression of the above mentioned therapeutic propositions. The 'drug picture' obtained, according to the above rules, was to be matched by the 'symptom picture' of the patient for the selection of a true cure. The art of the healer was in his ability to match the 'drug picture' to the 'symptom picture' of the patient. In order to obtain 'drug pictures' of various medical substances, a reformed and revised materia medica was the need of the hour. With this in view, Hahnemann "began the stupendous task of testing the materia-medica of his day, the results are in the *'Materia-medica pura'* in which are recorded the 'drug pictures' from the trials he made upon himself and his followers of the first 60 remedies.[550] "By the time Hahnemann died in 1843, he had supervised the proving of 99 medicines."[551]

By 1810-12, Hahnemann had more or less laid down the cardinal principles of his 'radical' 'new' pathy – homoeopathy. They are (a) *Similia similibus curentur* (not *'Sanantur'*) (b) the proving of medicine on healthy subjects, (c) the single remedy, and (d) the minimum dose.

It is not incidental that all the cardinal principles of homoeopathy addresses one or the other vices of heroic and polypharmatic therapy. It first challenges the mode of treatment by opposing and dominating the disease. Secondly, it underlines the arbitrariness of the drug selection and its administration. Third, it is set against the polypharmacy of allopathy and finally addresses the heroic doses as prescribed by it.

Homeopathy and Cholera:

The entry of cholera and homoeopathy in Britain was almost coeval. The terror of cholera and the helplessness of regular medicine merged to accentuate/instigate cholera riots in some cities of London. The cadaverizing potential of cholera was enhanced by blood-letting. The 'scientific insanity' to 'bleach, leech and nauseam' made death more certain. Regular doctors served as targets for the contempt, sneer and resentment of the

[550] Benj. C. Woodbury, Jr., 'The Homoeopathic School of Medicine' in *The Indian Homoeopathic Journal* with which is incorporated the *Madras Homoeopathic Journal*, Vol. III, No. 2, February 1952.

[551] Phillip A. Nicholls, *Homoeopathy and the Medical Profession*, p. 9.

terrorized folk. People were reluctant to enter hospitals, as those who went there were sure to die. Different physicians attending a cholera case would provide the patient with haphazard prescriptions. Doctors would be delighted if the calomel bled the gums –for it was a proof that the medicine was working. They sometimes devised 'artful stratagems' to administer heavy doses.[552] Amidst the controversies and rumours about the cause and communicability of the malady, everything from "*calomel, zinc, bismuth, musk with camphor, ipecacuanha, valerian, sal volatile, hartshorn, natron, carbon menth piperit, arnica, colombo, cascarilla with naphtha and opium, tinct. aromatica, calam., arom.,* cold douches, leeches, emetics and chinchona"[553] and a host of other things were being tried as victims persisted in dying.

This was the opportune time for homoeopathy to make its mark felt. In contrast to the varieties of drugs with heavy doses, these physicians with their mild drugs, recorded their first success against Asiatic cholera.[554] In the early 1830s, "the homoeopathic physicians began to treat the terrible cholera according to the principles of their system".[555] They had an advantage upon the regular practitioners in this regard. According to the teachings of their master, the adherents of this new 'pathy' did not embroil themselves too much in the causation controversies of this new malady. The reasons were not far fetched. In the Hahnemannian dictum, "the disease consist(ed) only of the totality of its symptoms"[556] and that there was no need to follow "the old school's futile attempt to discover the essential nature of disease (prima causa)".[557] In accordance to these fundamental precepts of their 'pathy', the homoeopaths remained aloof to the conflicting theories that were being propagated with regard to cholera. Instead, "judging by the

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[552] Charles E. Rosenberg, *The Cholera Years: The United States in 1832, 1849 and 1866*, Chicago: The University of Chicago Press, p. 157.

[553] Thomas Lindsley Bradford, *The Life and Letters of Dr. Samuel Hahnemann*, pp. 253-254.

[554] Phillip A. Nicholls, *Homeopathy and the Medical Profession*, p. 11.

[555] Thomas Lindsley Bradford, *The Life and Letters of Dr. Samuel Hahnemann*, p. 256.

[556] Samuel Hahnemann, *Organon of Medicine,* p. 20.

[557] Ibid., p. 20.

symptoms of disease and their knowledge of the action of medicines"[558] upon the healthy, they started using well proven drugs like *arsenic, veratrum, ipecac, camphor*, and *cuprum* as given in their therapeutic law. "There was no propounding of ridiculous scientific pathology, no recommending of marvellous compounds on the part of homoeopaths."[559]

Dr. F. F. Quin, a student of Hahnemann found the opportunity to put his "pathy into extensive action in 1831 against an epidemic of cholera in Moravia".[560] Dr. Quin along with Dr. Gerstel and two other surgeons – Hanush and Linhart, had charge of all the cholera cases in the town of Tischnowitz and its neighbouring villages. They treated the cases successfully with ***camphor***. Dr Grestel also found ***phosphorous*** useful in the stage of the collapse of cholera and its half-infected variety – cholerine.[561] So great was the success in Tischnowitz that its chief magistrate Ernst Dieble sent a letter of thanks to Dr. Quin stating eloquently that "the authorities feel themselves under the obligation to make respectful acknowledgements to you for the assistance you afforded, with such generous humanity, to the inhabitants of the district."[562] Magistrate Dieble also sent his own statistics along with the letter of thanks which were in favour of the emerging pathy. According to him, out of 6, 671 inhabitants, 680 had cholera out of which 331 had been under allopathic treatment and of whom 102 of them died. In contrast, 278 were treated homoeopathically and only 27 of them died; of the 71 treated with ***camphor*** only 11 died.[563]

At other places also homoeopaths were showing favourable results. "Dr. Peterson of Pensa treated 68 cases of cholera out of which 14 died. He used *Ipecac* 20^{th}, *Chamomilla* and *Arsenicum* 30^{th} dilutions. Dr. Schubert of Leipsic, in 1830, recommended *Veratrum, Ipecac, Arsenic*, and *Chamomilla.*"[564]

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[558] Thomas Lindsley Bradford, *The Life and Letters of Dr. Samuel Hahnemann*, p. 257.

[559] Ibid., p. 257.

[560] Phillip A. Nicholls, *Homoeopathy and the Medical Profession*, p. 108.

[561] Thomas Lindsley Bradford, *The Life and Letters of Dr. Samuel Hahnemann*, pp. 266-267.

[562] Ibid., p. 267.

[563] Thomas Lindsley Bradford, *The Life and Letters of Dr. Samuel Hahnemann*, p. 267.

[564] Ibid., p. 256.

Doctors like Quin and Grestel were in regular correspondence with Hahnemann. Though the latter himself had no opportunity of treating cholera, he took active part in advising his disciples through letters and pamphlets. In 1831, he wrote a pamphlet on the 'Cure and Prevention of the Asiatic Cholera'.[565] He distributed 30,000 copies of his 'Directions on cure and prevention' among the inhabitants of Vienna, Hungary, Berlin and Magdeburg. He recommended ***camphor*** as the principle remedy.[566] "The patient must get (camphor) as often as possible (at least every 5 minutes), a drop of camphor (made with one ounce of camphor to 12 of alcohol) on a lump of sugar or in a spoonful of water."[567]

Cholera was capable of producing contradictions in Hahnemann as well. As is clear, he gave camphor in quite large doses though much less than the normal allopathic doses of any medicine prevailing at that time. This was quite in contrast to his own homoeopathic principle of minimum dosage. By Hahnemann's own admission, he gave large doses of camphor to produce an 'allopathic effect', or palliative action so that the patient could be kept floating and the homoeopathic medicine may get time to act.[568] Camphor was recommended only for the first stage of cholera. After the first stage of the disease is passed, ***copper*** prepared from the pure metal according to the methods and directions provided regarding the chronic diseases, and "of which the patient is to get one or two globules every hour"[569] till he recovers. Hahnemann, however, advised that no other medicine or herbs were to be administered simultaneously with copper. Camphor and cuprum were the new successful remedies that Hahnemann brought to light.[570]

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[565] Thomas Lindsley Bradford, *The Life and Letters of Dr. Samuel Hahnemann*, p. 261.

[566] Ibid., pp. 262-263.

[567] Ibid., p. 261.

[568] Ibid., p. 262.

[569] Mahendra Lal Sarkar, *A Sketch of the Treatment of Cholera*, p. 67.

[570] Ibid., pp. 67-68.

Mahendra Lal Sarkar and his Vision of Medicine and Science:

The 'allopathic' contradiction in Hahnemann with regards to the use of camphor was also pointed out by Mahendra Lal Sarkar in his book *A Sketch of the Treatment of Cholera*[571] that was first published in 1870. Clearly, by the 1860s, the Hahnemannian spirit had become well entrenched in choleraic Bengal[572] and doctors like Sarkar were creatively engaging with it. Sarkar, an accomplished allopath, who later changed his 'creed' to homoeopathy, was one of the greatest champions of this spirit. His conversion to homoeopathy was not a chance happening, nor was his engagement with it an amateur hobby that he developed. His 'change of creed' was very much a professional decision – a decision taken as a "physician awakened to a sense of aweful responsibility of his calling".[573] The context of cholera as a recurrent malady and its lack of treatment in allopathy, made Sarkar realize the lacunae in the then prevailing heroic therapies and also allowed him to appreciate homoeopathy in proper perspective.

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[571] Mahendra Lal Sarkar, *A Sketch of the Treatment of Cholera,* pp. 67-69. Sarkar has shown similar other contradictions pertaining to other diseases as well.

[572] In the 1830s, as 'Asiatic cholera' took the metropole in its embrace, the 'new school' of medicine i.e. homoeopathy prevalent in other parts of Europe, found its way to the colony. Some military men practiced it as an amateur hobby from the 1840s. Some Government medical officers stationed at Fort William were known to admire homoeopathy and practised it. There are evidences that some missionaries also made this 'pathy' a part of their 'do good ethic'. Dr. Mullens of the London Missionary Society was known to distrbute homoeopathic medicines to the people of Bhawanipore. Dr. John Martin Honiberger, a German physician who despite his use of homoeopathic medicines, did not consider himself a homoeopath.

As cholera was a recurrent phenomenon in India, many early homoeopaths encountered it. There are references that this mode of treatment was used by doctors in the General Military Hospital in Bombay, particularly in the treatment of cholera. One of the Judges of Sadr Dewani Adalat, Mr. Ed D'Latour sent homoeopathic medicines for free distributions to the inhabitants of diamond harbour where cholera was taking its toll. Dr. J. Rutherford Russel, a medical officer at Fort William practised homoeopathy. After his retirement, he returned to England to settle as a homoeopathic practitioner and as a homoeopath he encountered the cholera epidemic of 1848-49, and even wrote a cholera treatise. Surgeon Samuel Brooking, a retired medical officer under the patronage of the Raja of Tanjore, established a homoeopathic hospital at Tanjore in 1847. In Bengal, in 1850-51, the Native Homoeopathic hospital and Free dispensary was established. Rajendra Lal Dutt and a French homeopath Dr. Tonnere were associated with this hospital although the hospital did not last long.

For more examples and anecdotal accounts of this nature, see Surinder M. Bhardwaj's 'Homoeopathy in India' in Giri Raj Gupta (ed.), *Main Currents of Indian Sociology*, Vol. IV, New Delhi: Vikas Publishers, 1981, pp. 31-54. Also see the chapter 'Rise and development of Homoeopathy in India's past history' in Sharat Chandra Ghose's *Life of Dr. Mahendra Lal Sircar*, Calcutta: Hahnemann Publications, 1935, pp. 27-83.

[573] Mahendra Lal Sarkar, *A Sketch of the Treatment of Cholera,* Preface, pp. iii to v.

Sarkar's mother "who survived her husband for about four years, fell a victim of cholera"[574] when she was only 32 years of age and when Sarkar himself was barely four! Cholera epidemics rekindled the memory of his mother and challenged him as a doctor. As an allopath, Sarkar had seen that this pestilential disease did not yield even to the heavy doses of his medicines. By his own admission, allopathy was a "***signal failure in cholera*** (emphasis added), scarely less so in chronic diarrhea and dysentery, in fevers which were not amenable to quinine, and in vast majority of the diseases for which no specifics have been discovered."[575]

As an allopathic practitioner, he gradually became alive to and concerned about the vices of drugging and the rampant use of stimulants – the remnants of heroic therapy.[576] In this context, he regarded homoeopathy as a reform movement which tried to do away with the "mischief of giving powerful drugs at random and in heroic doses and of the reckless use of such dangerous agents as the leech, the lancet, the cautery, etc.".[577] As a denouncer of homeopathy in his initial days, he was challenged into witnessing and testing the efficacy of homoeopathic drugs by Rajendra Lal Dutt.[578] Further persuaded by Vidyasagar to comply to the request of Rajen Dutt, Sarkar slowly came to terms with their request. A few years before his conversion, he delved deeply into the available homoeopathic literature of his time. As a volunteer-apprentice doctor, he not only witnessed the Hahnemannian principle of therapeutics at work at Rajen Babu's dispensary, but also

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[574] Sharat Chandra Ghose, *Life of Dr. Mahendra Lal Sircar*, p. 2.

[575] Ibid., p. 2.

[576] Arun Kumar Biswas, *Gleanings of the Past and the Science Movement in the Diaries of Dr. Mahendralal and Amritlal Sircar*, Calcutta: The Asiatic Society, 2000, pp. 12 and 15.

[577] Sharat Chandra Ghose, *Life of Dr. Mahendra Lal Sircar*, p. 200.

[578] DUTT, RAJENDRA (1818-89)
"Born in Calcutta, 1818; educated at Drummond's school, and at the Hindu College; joined the Calcutta Medical College, to be trained in Medical Science; after leaving the College, he opened a dispensary at his own house and commenced allopathic treatment, helped by Dr. Durga Charan Banerji; In 1853 opened the Hindu Metropolitan as a protest against the laxity displayed in the Hindu college, and began to study homoeopathy; In 1857, started a business firm, Dutt, Linzu and Co., with Europeans as partners, which failed in 1861; there upon he established a homoeopathic dispensary; In 1864, Dr. Berigny came to Calcutta, and with him began to spread homoeopathic treatment; In 1867, he converted Dr. Mahendra lal Sarkar (q. v.) to homocopathy; lost great wealth in business speculations; was very generous; died June, 1889." Taken from C. E. Buckland, *Dictionary of Indian Biography*, Delhi and Varanasi: Indological Book House, 1971, p. 28.

compared his allopathic prescriptions with the latter's homoeopathic prescriptions and got the opportunity to assess the effects of those 'sweet globules' at the bedsides of patients.[579] These were his years of 'trial'.

Soon after, almost in the same spirit in which Hahnemann had written a letter to Hufeland[580] on the 'Great necessity of a regeneration in Medicine' where he gave vent to his anguish regarding the uncertainity of medical practice, Sarkar, too delivered a speech 'On the supposed uncertainity in medical science and on the relationship between disease and the Remedial Agents', before the Bengal branch of the British Medical Association on its fourth annual meeting in February 1867.[581] However, before any debate could take place regarding Sarkar's views on homoeopathy, as were expressed in his speech, 'hell broke loose'. Subsequently, he was expelled from the Association of which he was the founding Secretary. Over night he became a quack. Rumours were widespread among the 'gossipy bhadralok' that Sarkar had "lost reason and yielded to the seductions of Babu Rajendra Dutt".[582] The loss of his practice was sudden and complete. Orthodox journals like the *Indian Medical Gazette* printed slanderous accusations against him. Sarkar replied in protest but his protest letters were consigned to the garbage bin.

Sarkar decided to confront the orthodoxy of the dominant medicine and started the *Calcutta Journal of Medicine,* in 1868, on 'catholic principles'. He purposefully did not give any 'exclusive' name to the Journal.[583] In its very first editorial entitled 'Our Creed', Sarkar stated that "cures (were) effected in diverse ways"[584], i.e. there were diverse creeds of medical systems. "If one system of medicine were successful in all cases, there would

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[579] Sharat Chandra Ghose, *Life of Dr. Mahendra Lal Sircar*, pp. 50-70.

[580] Thomas Lindsley Bradford, *The Life and Letters of Dr. Samuel Hahnemann*, p. 33.

[581] Arun Kumar Biswas, *Father Eugene Lafont of St. Xavier College, Kolkata and the Contemporary science Movement*, Kolkata: The Asiatic Society, 2001, p. 46. Also see Sharat Chandra Ghose, *Life of Dr. Mahendra Lal Sircar*, p. 15.

[582] Sharat Chandra Ghose, *Life of Dr. Mahendra Lal Sircar*, p. 18.

[583] Ibid., p. 181.

[584] Ibid., p. 180.

have been no emergence of any non-conventional or alternative system."[585] The *Indian Medical Gazette* lampooned Sarkar's support for homoeopathy but the Catholic St. Xavier's College mouthpiece, the *Indo-European Correspondence* or *Indo* supported him. *Indo* alluded to Sarkar's erudition, but found his lengthy expatiation of his 'creed' as a little 'unhomoeopathic'. It noted that "If the learned editor will treat of homoeopathy, why will he insist on furnishing it to his readers in such unhomoeopathic doses."[586]

Meanwhile, cholera also demanded Sarkar's attention. His book on cholera is well informed by the contemporary debates of his time. He indulgingly cites and expatiates on every commentator on the disease. The texture and tenor of his book qualifies every yardstick of a classic textbook. As his book reveals, Sarkar was not a Hahnemannian in toto. In his probings on cholera he was 'partial to none', neither to the 'old school' nor to the 'new school', in the sense that, in the domain of medical knowledge and in choosing his therapeutic option, Sarkar always reserved his right to be eclectic. In the case of cholera, he based his etiological and epidemiological understanding as per the 'old school' but drew his therapeutic resources from homoeopathy because here the 'proven drugs' offered a better possibility of constructing a pharmacopea for cholera. As regards cholera, "the question for him was not 'system versus the life of our patient', but of 'cure versus disease'".[587]

We see Sarkar re-contextualizing cholera in the light of the advancement made in medical science, but he did not prove to be a dogmatic blind follower of Hahnemann. Sarkar unlike Hahnemann underscored the importance of both pathology and the natural history of the disease. It was in this light that he wanted to see the physiological and pathogenic actions of the drug. As is apparent from the delineation in his book on cholera, Sarkar while assessing the effects of cholera on the anatomy and physiology of the human body adopted the Cartesian-mechanistic viewpoint. However, for the therapeutics of

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[585] Arun Kumar Biswas, *Father Eugene Lafont of St. Xavier College, Kolkata and the Contemporary science Movement*, p. 46.

[586] Ibid., p. 47.

[587] Mahendra Lal Sarkar, *A Sketch of the Treatment of Cholera*, Preface, pp. iii to v.

cholera, he explored the homoeopathic pharmacopea. In accordance to the mechanistic viewpoint, he dealt with the latest medical findings about the morbid anatomy in conjunction with the morbid physiology, which cholera occasioned. He went system-wise, right from the muscular system and alimentary system to the nervous system, in order to trace every lesion met with in cholera and tried to differentiate between primary and secondary lesions. From the vast array of marks which cholera stamped on any organ or tissue, he tried to search for "some link that will unite in a consistent whole the causes, symptoms and lesions of cholera".[588] Sarkar was never dismissive of the pathology and nosology of the 'old school', but he understood the vices of polypharmacy and the heroic doses, and in this context, he hailed Hahnemann's large scale 'drug proving' as a singular contribution. In his opinion, "the great merit of homoeopathic system, it should be remembered, is that its foundations is laid upon a materia medica which consists of a detailed and systematic record of the pathogenic actions of whatever can disturb and disorganize healthy function and structure, which necessarily include poisons as well as less violent and milder substances."[589]

Sarkar in the Hahnemannian spirit of 'drug proving' endeavoured to compile all the drugs used in cholera to construct a ready materia medica for the disease. This is clear from the last three pages of his book on cholera where he arranged 44 homoeopathic drugs and 12 allopathic drugs, according to their importance in the curative process. The relative importance of these remedies are indicated by their typography i.e. the less efficacious drugs are printed in small font letters, while the important drugs are indicated in large font letters. In another auxillary arrangement, he listed the remedies according to the stages of cholera in which they were to be used.[590] The 'therapeutics' of cholera was Sarkar's prime concern. At the same time, he was not bereft of a public health perspective which largely remained intact, more so, because Sarkar himself was on various water works committees and hence not entirely obsessed with clinical inquiries alone.

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[588] Mahendra Lal Sarkar, *A Sketch of the Treatment of Cholera,* p. 34.

[589] Ibid., p. 42.

[590] Ibid., pp. 143-146.

While delineating on the different aspects of cholera causality and cure, Sarkar unlike Hahnemann was not vitriolic towards allopathy though he remained critical to it. Adhering to homoeopathic practice, he was aware of the shortcomings in both. His book on cholera revealed how he could bank on the strengths of both the schools against a humbling disease. Sarkar had the "bilingual's confidence that a dialogue between different medical systems was possible".[591] He stood for a more 'plural encounter' between the medical systems. Sarkar read Ayurvedic texts and did not regard that system with contempt. We find him translating the Sanskrit medical text *Caraka Samhita* in 1879, from a handwritten copy presented to him earlier. Sarkar had great respect for his neighbour Ramanath Kaviraj and, mourning his death on the 10th of January 1879, noted that "we have lost a learned and a very popular Kaviraj."[592]

Cholera even led him to develop an interest in a Tibetan text describing an ailment similar to cholera that prevailed in ancient India and China.[593] Sarkar during a visit to Darjeeling met an old Lama, Sherab Gatscho with whose aid, along with that of his (i.e., Sarkar's) friend Sarat Chandra Das, he got "translated some passages of a chapter in Tibetan medical work treating a disease prevalent in India and China!"[594] "The description relat(ed) to disorder of the bowels with purging resembling cholera in some symptoms only."[595] Sarkar also rode to Goom Pahar, on which was situated the "Gomfa (monastary) of (the) old Lama, with the object of discussing with him the passages he said he had found relating to (the) disease characterized by vomiting and purging, and in which it has been prophesied will carry of 1/3rd of the population of the world."[596] Sarkar was to return disappointed as that passage was not to be found.

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[591] Shiv Visvanathan, *A Carnival for Science: Essays on Science, Technology and Development*, Delhi: OUP, 1997, p. 136.

[592] Arun Kumar Biswas, *Gleanings of the Past and the Science Movement in the Diaries of Dr. Mahendralal and Amritlal Sircar*, p. 56.

[593] Ibid., p. 93.

[594] Ibid., p. 93.

[595] Ibid., p. 93.

[596] Arun Kumar Biswas, *Gleanings of the Past and the Science Movement in the Diaries of Dr. Mahendralal and Amritlal Sircar*,p. 94.

We see in Sarkar a physician trying to make, as thorough as possible, an assessment of the prophylactic alternatives for cholera. His diaries are replete with references to the numerous cholera cases he attended. He summed up his experience and understanding of the disease in his classic book. However, astonishingly his book does not find mention in any other contemporary work on cholera or fails to even figure in the footnotes of such works. Appreciative of the many virtues of the dominant regular medicine in which he was trained, he explored the therapeutic alternatives offered by homoeopathy. He defended his position as a physician by asserting his right to choose the therapeutic principle on which he was to base his practice. He was castigated for having transformed into a quack.

This 'native', in other words, was no ordinary physician. He was the second M. D. of the Calcutta Medical College, was known in the city for his acumen as a doctor, was a popularizer of science, held membership of various professional bodies, edited a journal, remained intimately involved with the activities of the Calcutta University, yet, he found himself attacked from all sides. Why? Was it merely on account of his public justification of the questions that Hahnemann had raised a generation ago? Why did a medical system not 'successful' in treating a malady, try to evade self-criticism and try to push (unsuccessfully though) to the periphery, someone who dared to tread the path of self-criticism. The 'compact' existence of dominant medicine and the colonial state impeded the possibility of looking over to other side of Europe. It is interesting to note that in the 1870s, a 'native mind' refused to imbibe western medicine as given to him, and his imagination got fired from the alternative currents that emerged within western medical thought. He arrived at his own judgement based on epistemological grounds and did not fall prey to the pedagogic structure where he had learnt his first lessons in medicne.

Sarkar, moreover, repudiated the exclusive and sectarian name of a 'homoeopath' for himself, and claimed his place as a physician and his right to choose a therapy according to the ever soaring high ideals of therapeutics. Inherent in the exercise of this right was the right to protest against the 'bigotry' of the old and the new schools of therapeutics. Shunning sectarianism in medicine, Sarkar was of the view that in the domain of knowledge, professional trade unionism did not work, "correct conclusions are easily

reached by a knowledge of all sides of a subject".[597] Unlike Hahnemann, Sarkar neither professed nor preached homoeopathy as an absolute system of medicine. He did not subscribe to the Hahnemannian dictum that there was only one law of cure. He did not regard the vital laws of the organism as the be all and the end all. In his understanding,

> The human organism is governed by a variety of laws; its disorders therefore are manifold, proceeding from infringement of one or more or all of these laws; and consequently the therapeutics of these disorders must recognize the operation of all these laws. The great difference between the old and the new schools of medicine consists in the one generally ignoring the vital or dynamic laws and the other the mechanical and the chemical laws, which all combine in maintaining life.[598]

Against the exclusiveness of state patronage to allopathic or dominant medicine, Sarkar forged out his vision for a plural culture of medicine. According to him,

> In the present state of medicine, hospital ought neither to be exclusively allopathic nor homoeopathic. In an allopathic hospital every improvement in therapeutics would be admissible save one. In a homoeopathic hospital all improvement in therapeutics is shut save one. The medical officers of an allopathic hospital ought not (to) be tied down to a particular line of treatment, much less ought the medical officers of a homoeopathic one.[599]

In a self-critical assessment of his role as a physician, he saw himself as a sinner without being ashamed of being so, as far as the Hahnemannian dictums of high dilutions were concerned. In contrast to this dictum, Sarkar in his own practice used medicines in low dilutions and mother tinture forms. For him, the question of dosage was an open one. He did not accord canonical status to the maxim *'Similia Similibus'* because, in his opinion, it was "the most unphilosophical and painful straining of *Similia Similibus*"[600] to proclaim that it is the most superior law or that it should pervade all other laws of therapeutics. But since it had refined and enriched the materia medica in many ways and had many positive recommendations for the healthy existence of human beings, it is

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[597] Sharat Chandra Ghose, *Life of Dr. Mahendra Lal Sircar*, p. 179.

[598] Mahendra Lal Sarkar, *A Sketch of the Treatment of Cholera,* Preface, p. v.

[599] Sharat Chandra Ghose, *Life of Dr. Mahendra Lal Sircar*, p. 182.

[600] Sharat Chandra Ghose, *Life of Dr. Mahendra Lal Sircar*, p. 180.

incumbent upon dominant medicine to recognize homoeopathy as one of the therapeutics systems.

In 1878 when the Faculty of Medicine protested against the nomination of Sarkar, objecting to their coming in contact with one who professed and practiced the absurd and abnoxious system of homoeopathy, he challenged the faculty to prove their objection to his parctice of homoeopathy both qualitatively and quantitatively. Without any ambiguity, he stated that the medical faculty was not qualified to do so.

Exhibiting his masterly reading of history and the philosophy of medicine, he pointed out the persistent empiricist strain present in the medical thought from Hippocrates onwards to Hahnemann. Sarkar quoted many great names of dominant and regular medicine who were not only self-critical about their pathy, but were also alive to the claims of other pathies and their philosophical underpinnings in varying degrees. He quoted Hufeland who regarded homoeopathy as "subsidiary to higher priciples of rational medicine".[601] Sarkar also alluded to Liston who, by his own admission, believed in homoeopathic doctrines to a certain extent.

As already refered to earlier, in his appreciation of the plurality of therapeutic science, Sarkar did not give any exclusive name to his journal – it was merely called the *Calcutta Journal of Medicine*. Nor at a later stage did he venture to open a homoeopathic college, which he could have easily done like his peers. Instead, he engaged himself with the 'cultivation of science' – a general culture of science, where specialization would not lead to 'parochialism,' where "fancies and prejudices begotten of limited study,"[602] however, utilitarian could be broadened to usher in a general culture of science; where science would not merely tantamount to the worship of the 'Idols of the dens'. For, Sarkar saw the growth of different 'pathies' of medicine, within the larger vision of the cultivation of science. However, M. L. Sarkar's vision of a plural science could not be articulated by

[601] Ibid., p. 177.

[602] Mahendra Lal Sarkar, 'Moral Influence of Physical Science: Being the substance of a Lecture delivered at the Town Hall, on January 7, 1891, under the Presidency of his honour the Lt. Governor' Calcutta: Anglo Sanskrit Press, p. 5.

the Indian Association for the cultivation of Science. The concept was lost out in the blueprint for the institution.

CONCLUSION

To begin with, in my perception, a conclusion has two distinct elements. The first is the essence of what the chapters narrate and the second is the implications that they have. In my two year old association with the cholera archive, three things in particular stand out about the disease in 19th century colonial India.

Firstly, cholera – the mysterious disease of the 19th century – at most times and by various ways of reasoning was made to emanate from the colony, particularly India. What is especially striking is that the oriental framing of the disease went on in simultaneity with the process of consolidation of the empire. Although the prevalence of the disease in Europe, and particularly Britain prior to 1817, finds recurrent mention in the European medical literature of the time, its delineation by later European medical men sought to consciously wipe out the entire history of cholera before this period in the region from public memory. Discourses on the disease in 19th century colonial India were not merely expressed concerns and anxieties about controling it, rather it was as much an effort in the direction of the historical production of cholera as a disease emanating from the Indian sub-continent. Thus the perceived links between cholera and colonialism go far deeper than imagined.

Second, in most of the cholera treatises and reports, discussions about and around pilgrimages get more than the usual attenion. Concomitant to the endeavour of historically attributing the origins of cholera to the colony, efforts were directed at singling out the sites at which the disease bred and wrecked devastation. The pilgim site was easily the most discernable site for the colonizers in which the disease touched epidemic proportions. The process of colonization aided pilgrimages that in turn helped in the epidemicization of cholera in India. Pilgrimages hence served to reinforce the prevalent Eurocentric delineation of cholera as being distinctly a disease of the colony. This depiction was accentuated by the racial turn in the post-mutiny phase which squarely attributed the virulence of the disease to the natives and their filthy mode of existence. Colonial

intervention, as a matter of fact, bolstered the process of structuring a disease like cholera in the colonial milieu.

The problem of the management of cholera was inflated by the exoticized narrative of the pilgrim sites. The cholera problem was presented as a predicament associated with the prevention of pilgrimages and the economic backing for the use of sanitary science was not to be employed to intervene in this instance. Cholera and pilgrimage became interchangable. Moreover, the exoticization of cholera is to be seen by the fact that one of the theories for its prevention came to be known as the 'pilgrim theory'.

One should not wonder why the cholera treatises and reports are so full of cultural connotations about the Indian body and landscape because, the helpessness of science and the unwillingness to forge a sanitary agenda due to economic imperatives, had to be masked by shifting the blame on the colonized through cultural essentialization. In this exercise of cultural essentialization, the contagionists were much ahead of the anti-contagionists. If the contagionists accorded uniqueness to the native body and landscape, the anti-contagionist argued for the uniqueness of cholera in the colony. Contrary to expectations, even the understanding about the disease which accrued in the metropole was given very late reception in the colony. Whenever, the evolving scientific knowledge at the metropole provided a clue for an action in the colony, the colonial state invoked the uniqueness of the disease and delayed the reception of those theories on which action oriented sanitary plans had to be forged. The desire for science to succeed is one thing, and to carry forward the call of science is entirely another. In the metropole, both were done. In the colony, the former was sometimes expressed but the action part was not initiated by the colonial state until as late as the 1880s. Localist utopias of sanitary republics (which jelled with Cuningham's localist theory of cholera) were not to be achieved and could not be achieved by 'sanitary primers' alone. It needed sustained economic backing which was never provided.

Military health was the prime concern of the colonial state. In other words, public health by and large meant military health. The causation and communicability controversies did not preclude the introduction of the sanitary agenda in the cantoments. The portrayal of the problems of the pilgrim sites were inflated and generalized for the entire public realm by the contagionists to underscore their specific sanitary agenda, while

the anti-contagionists (whose thinking was coterminous to state policy), underplayed its importance and were at best ready to focus on the pilgrim sites as per their localist understanding. The localist-pragmatists led by Cuningham were for the rejection of all theories as a basis for practical sanitary work. From their 'purely practical point of view', a localist phenomenon could be easily tackled through local resources. Clearly, they did not want to implicate the state in a very costly exercise. The almost sympathetic and non-interfering attitude of the anti-contagionists towards pilgrimages was not out of benevolence. They were to rationalize and justify the reduction of the expenditure on sanitation not beyond which the local funds permitted. ***In the interplay between the inflated portrayal of the contagionist and the underplayed description of the anti-contagionists, the blueprint of a general sanitary agenda for the wider public realm was lost.***

Finally, it is remarkable to observe that most of the otherwise voluminous cholera treatises and reports do not have much to say on the mode of treatment. This paucity of accounts on the manner of dispensing with the treatment of cholera point to a salient fact. It, in more than one way, reflected the anxieties of medical men both in the metropole and colony, in their search for a successful prophylactic breakthrough which was a highly tension ridden process. As pointed out in my last chapter, why the symptoms arose and how they were to be tackled, challenged the very limits of medicine. Along with the expressed anxiety, an inherent pessimism in the dominant and 'rational' medicine of their time marked the medical men's attitude. What needs to be reiterated here is that the anxieties of this class was also an echo of the anxieties of the empire as well as the expanding empire of scientific enquiry. The anxieties of the 'embattled minority' outweighed those of the vast population. For the former, the apprehensions were not only about death alone, rather it was about their capacity to colonize and rule which cholera threatened to undermine in a big way. But how is one to map out or account for the trepidations of the vast majority who sufferred silently under the 'heroic' doses doled out to them? Since there are no records to reveal their anxieties, as the census till 1870 was in its infancy, an attempt has been made to subjectively capture the demographic consequences of cholera through the use and implications of the heroic therapies.

People got converted to a newer understanding of the disease in the metropole (Farr and Simon became the new converts to Snow's water-borne theory), but in the colony, even that was not possible. The colonial state's own stance was not to be challenged by science and medicine, instead they had to exist compacted. Science had to serve the economic imperatives of the Raj. Moreover, newer understandings of the disease in the light of the new theories (instead of laying the foundations of the public health measures) were used to sharpen the cultural rhetoric against the natives. This served to legitimize the latter's cultural stereotyping.

The above three points have been an attempt to not only problematize our understanding of the working of a disease like cholera within a colonial context, but to depict its social implications and the nuanced form that its control assumed in varying sites. This social biography of cholera has sought to highlight as well the breaks in the practice of dominant western medicine and how cholera not only challenged the limits of 'heroic' and 'rational' medicine but also provided the context for the emergence of new alternatives, in this case – homoeopathy – in the choleraic colony.

The social history of cholera becomes then an entry point underlining the ruptures in the teleological progress of medicine in history. As seen in an earlier chapter, historiographically, it is indeed hard to underplay the teleological progression within the history of medicine from history in service of medicine to medicine in history and finally the social history of medicine. Through the instance of cholera in 19th century India, I have attempted to trace the inherent contradictions in the presumed positivist transition in the history of medicine. The role reversal in the historiography of medical history, moreover, allows for a shift in focus from the novelties of medicine and its practitioners to its less glamorous subjects i.e., the vast majority who were subjected as laboratory specimens to such novelties.

This dissertation has therefore primarily been a study of the contradictions of various interpenetrative realms associated with cholera. There were contradictions at various levels. The most obvious of them was the contradiction between the real delivering capacity of dominant western medicine and the triumphalist rhetoric with which it tried to colonize the body. At a different plane, contradictions are revealed in the anxieties of the

colonial state about the fate of the empire and the anxieties of survival of the vast population in a famine afflicted country who were doubly condemned, one, by the malady, the other, by the heroic medicine of the age. The anxiety of the colonial medical men has been explored through the bafflement, 'the inscrutable malady' fostered in their minds and their concern about the survival of their soldiers. Initially faced with the high mortality and morbidity rates of the soldiers in the colony, the state introduced sanitary measures in the cantonments with the intention of reducing the fatality of the disease upon its soldiers. This incumbency factor to save the 'embattled minority' from the virulence of cholera which defied scientific comprehension, made the entire colonization process an anxiety ridden one. It was then by and large an anxiety about the fate of the empire.

In contrast, the anxieties of the vast suffering and dying laity was about their own survival and it has been explored by assessing the ramifications of the heroic therapies of dominant western medicine. The colonial understanding of the disease outside the confines of the cantonments was limited to the connections forged between cholera and the pligrim sites. Rather than warrant the implementation of largescale sanitary measures for the country in general, the state sought to control pilgrimages which, in its opinion, was the epicentre of the scourge. Further, the heroic history of cholera therapeutics demonstrates the manner in which the native body was sought to be colonized. Unfortunately, neither does the early census or the cholera archive provide a proper assessment of the actual impact of those 'efficacious' drugs on the suffering majority. Can the two levels of anxieties be then read and justified on the same plane as some apologists of the empire have done?

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