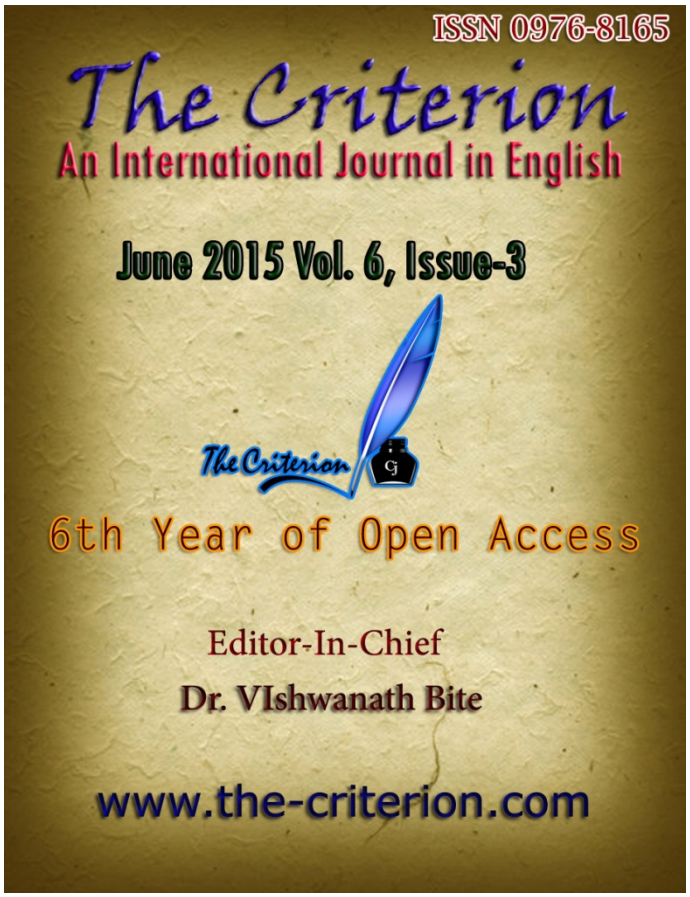

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Spatial Differentiation in Terms of Disease and Hegemonization through Scientific Discourse in the Colonial-era: A Post-colonial Perspective

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In this paper I propose a reading into the efforts that the colonizing Power had to undertake in order to administer, govern and simultaneously survive in the warm climate of the tropics. The unfavorable climate and unhygienic life-style of the 'natives' posited a big challenge before the administrators and the Physicians. Moving onwards through their journey over bigger spaces and for a longer stay in the colonies; solutions had to be sought for the protection of troops and officials. As a result, the dominant Power had to employ varied processes and strategies to counter obstacles in the form of diseases and also the common mass which at times opposed their dictates and regulations. However, through their expert knowledge the Colonizers were duty-bound to locate subliminal spaces and the colonies under occupation in terms of diseases, sanitation and hygiene. A disease epidemic creates conditions of an extraordinary use of Power. It becomes a crisis calling for measures usually coercive measures to exercise control over people. An epidemic/disease aids in the extension of the power of the State through monitoring, surveillance etc. The preventive measures include the segregation of people, monitoring behaviour, mandatory testing, restrictions on mobility and various other ways. Power operates through medico-juridical regime; involving and drawing individuals to the state-mechanism. Power not simply imposes but also disciplines the ways of submitting to the norms of behaviour as set. Mark Harrison in his essay, "A Question of Locality: The identity of Cholera in British India, 1860-1890" refers to Emmanuel Le Roy Ladurie's term "the unification of the globe by disease." The pain, loss and suffering resulting from a disease, an endemic can bring together the people all over the globe within the circle of concern for one-another simultaneously differentiating spaces and segregating people through biopolitics.

"Locality" indicating "Space" becomes significant; as the space needs to be watched over, surveyed for enacting preventive measures. Mark Harrison's essay starts with locating this "Space" in regard to the origin and spread of Cholera in British India. The space is Asiatic and Cholera is found to be originated in Lower Bengal. But diseases are liable to spread across boundaries with mobility of people; for trade, pilgrimage etc. Cholera was an important factor in increasing the mortality of European soldiers, a cause of much alarm within the colonial establishment. The Third Anglo-Maratha war coincided with the 1817-1821 cholera epidemic and the death of the troops on the march during the campaign contributed to a colonial perception of cholera as a deadly foe of the army. Such associations were further underlined by the deaths of white soldiers and generals during the sieges of 1857 and the campaign launched to relieve them.

It can be asserted that it was their worry and concern for self-preservation that had driven the British administration to identify this disease and its root; so that eradication or prevention could be made possible. Though Cholera had appeared in epidemic form in most major trading countries and their colonies by the end of the nineteenth century, it was perceived by the British administration as an alien and, often, a specifically Indian disease. Pioneering historical accounts of Cholera epidemics raised the suspicion of the colonial military establishments towards the camp followers who basically belonged to the lowest echelons in Indian society and ranked the lowest within the military hierarchy- as the source of cholera within the army.

In the middle decades of the 19th century there were two main discourses on disease in the tropics: the oldest gave advice to individual European travelers, traders and colonialists on the maintenance of individual health, while a newer literature was concerned with the health of European settlements in terms of sanitation. Most claimed that the high levels of mortality and morbidity experienced in tropical regions had been and could be reduced further. A core assumption was that high and fluctuating temperatures, high humidity and exposure to intense sunlight weakened the constitutions of Europeans who were not designed for, or adapted to warm climates. L.G.Wilson in his essay, "Fevers and Science in early nineteenth century medicine" states that "Early nineteenth-century texts still spoke in humoral terms of the blood throwing off "fiery and acrid elements" in the form of fever, "prickly heat" and leg ulcers, though by mid-century this had been recast in terms of pathological anatomy and physiology, with excessive heat said to disrupt normal circulation and nutrition, or to diminish the metabolism of the internal organs, especially the stomach and liver." Coping with such a situation demanded a strict regimen of clothing, diet, exercise, control of the "passions", and the avoidance of shock to the system. Some believed that in time European constitutions would adjust and that acclimatization would allow settlement of the tropics. However, such optimism was becoming rarer after mid-century as anti-acclimatizationists, drawing increasingly upon evolutionary arguments, stressed the adaptation of different races to different environments. They supposed that the same factors that produced poisonous atmospheres in British cities; principally sanitary neglect, simply wrought a higher toll in more backward colonies. 'Asiatic Cholera' was very important to this perspective. It was a disease which, while endemic to India, had spread across the world and thrived in unsanitary conditions at nearly every latitude.

From 1851 through to the end of the century, Cholera met with an International response and no less than ten International Sanitary conferences were staged to stem the spread of the disease. Delegates to International Sanitary Conferences demanded stricter measures to control the spread of cholera within India, including the regulation of internal pilgrimages. The closest that the colonial state came to intervention in Indian Civil life was in its attempts to investigate the relationship between the Hindu pilgrimages and Cholera and subsequently, in regulating the sanitation of sites of pilgrimage. There were attacks on the Govt. of India both in Britain and in India for the sanitary neglect. The reformist demands that included water- purification schemes were a move towards the decentralization and reduction of government expenditure. But for implementing preventive measures, it became important for the Government to "identify" the disease as

such. In the section, "The Special Geography of Hindoostan"; Mark Harrison has widely discussed on Dr. James Lumsdaine Bryden, an MD of Edinburgh University, who was the first person to occupy the post of Statistical officer- to the Govt. of India's newly formed Sanitary Department. He was commissioned to investigate the phenomenon of epidemic cholera. His main tasks were to establish the geographical limits of the disease, the duration of the epidemics, the influence of meteorological conditions and most importantly, its mode of propagation and spread.

Establishing geographical limits of the disease was important for demarcating the space; improving it or making it more conducive; by clearing, cleaning etc. Control over space includes a survey of land, water, location of the settlement etc., as swampy and marshy land can be a breeding ground of different diseases.

Bryden's enterprise was referred to as "natural history" in the medical press as it was considered as a form of enquiry which had its roots in eighteenth century natural philosophy. It emphasized on adaptation to the environment and the need to understand natural phenomenon from a historical perspective. The task of the "natural historian" was to gather as much data as possible relating to the object of the study and its physical surroundings. Bryden's attempt was to impose order on the natural-world- rather on a world that was alien and an environment that was hostile. D.Kumar, in his, "The evolution of Colonial Science in India: Natural history and the East India Company", in J. M. Mackenzie edited "Imperialism and the Natural World", has to say that- "Together with the geological, botanical, zoological and meteorological surveys of India, medical men aimed to understand the Indian environment and render it habitable and bountiful for Europeans. Identification of the disease which was not common in the West posed a challenge before the British; and for the correct identification of the source it became mandatory to visit in the infected areas. Talk to patients and frame hypothesis.

Along with Bryden, Willian Farr, Compiler of Abstracts at the Registrar- General's office in London was appointed to gather data and attempt to deduce the law governing the phenomenon under observation. For Bryden and Farr Statistics were the "Sibylline books of modern times… an unerring guide to the future." Both of them differed in their opinion in regard to the causation of disease. Farr believed that Cholera was spread in contaminated drinking water whereas Bryden remained convinced till his death that Cholera was an air and not a water-borne disease.

The Government received criticisms for its inaction in the sphere of public health. Annesley Charles DeRenzy, the Sanitary Commissioner of Punjab was the most persistent critic. Annesley Charles DeRenzy supported Dr. Parkes who had recommended chemical examination of drinking water and it purification by the addition of substances like alum and filtration through sand and charcoal. On the contrary, Bryden saw no need for special attention regarding the water-supply. He thought it detracted from the main object of sanitation- the removal of the filth in which the cholera seed was thought to propagate. It can be said that Bryden's hypothesis in some way delayed the process of identification of disease. DeRenzy did not refrain from criticizing Bryden and, in 1872, the Government of India made a formal protest to DeRenzy's superiors. DeRenzy was

instructed to adhere strictly to the orders of the Government of India in the presentation of future reports.

In addition to this, attempts were made to identify the places much affected which included the pilgrimages in priority. Bryden and Dr John Murray, Inspector- General of Hospitals for the North-West Provinces were chosen to conduct the enquiry on causation of disease. Murray recommended strict regulation of the water-supply and restrictions on population movement as preventives against Cholera. The Programme of Population Studies has always been driven by the need to know the locations, movements and behaviour of people. Vagabonds and nomadic tribes have always been tracked so as to enable the state to know their exact location and anticipate any trouble. Apart from these, there were times when the political climate was adverse to the implementation of sanitary reforms. Lord Mayo, Governor-General from 1869-1872, had inherited a large budgetary deficit from the expansionist regime of Lord Lawrence which he wanted to increase by increasing taxation and reducing public expenditure. So, Murray's recommendations had been rejected by the Indian government on grounds of cost. Though Murray's plans for 'pilgrim stations' en route to religious fairs found little favour with the govt, sanitary provisions continued to be made at places of pilgrimage themselves. Social control exerted by the State in the form of Sanitation, Immunization, Cleanliness-drives, Isolation of the infected people etc., seeks Govt machinery for making the control functional. The responsibility for public health, in Cunningham's view, lay with individual municipalities and cantonment authorities. "There can be no question", he advised government in 1873, "that the municipalities must form the centers from which education in sanitary matters should spread among the people, and there is no more important duty for the Sanitary Commissioners to discharge than that of encouraging… and creating the desire for sanitary improvements."

But for the success of sanitary measures, the cooperation of the indigenous population was also required. Education thus had a role by becoming a means of transferring responsibility for sanitation onto the municipalities and the people themselves. There was also a fear of provoking civil unrest through heavy-handed intervention in the lives of Indians. The Custodial Sanitary measures were not approved of on humanitarian grounds. As for instance, The Sanitary Commissioner of the Punjab, was unable to find words sufficiently strong "to express his disapproval of the forcible removal of sick from their homes to hospital during a cholera epidemic in the province in 1872.Dr Renzy favoured the use of indigenous personnel, even practitioners of indigenous medicines but the employment of Vaids and Hakims was stubbornly resisted by other members of the medical profession. The Government of India cast its eyes abroad; as Bryden was under increasing criticism. It found a champion in the German hygienist Max Von Petterkofer whose 'sub-soil water' theory of Cholera causation had already achieved widespread international recognition. Government made tough efforts to find causation and its remedial measures. Petterkofer's theory emphasized on the presence of a porous soil and abnormally high levels of ground water. His preoccupation with locality and with environmental factors was well-suited to the Indian context. In 1870, a scheme for the registration of sub-soil water levels was instituted in Madras, but it was not of much help; yet the government persisted with its programme, insisting that while Petterkofer's theory

had not been proved it had not yet been disproved either. By 1875, the registration scheme was becoming an embarrassment to the government; and Dr Renzy reported that "the observations of sub-soil water level made to test Professor Pettenkofer's theory… have not led to any clear or decisive results.

The official medical doctrine in India diverged increasingly from medical opinion in Britain. Robert Koch (1843-1910) and the German Cholera Commission arrived in Calcutta in Dec 1883. The Commission had already spent several months making clinical examinations of Cholera patients in Egypt. In Calcutta, the Commission was provided with a small laboratory and such equipment as the Calcutta Medical College could afford. The continuous failure of identification of this disease caused the Government of India to believe that the controversy can be resolved in the laboratory rather than on the basis of purely epidemiological evidence. The inadequacy of existing provisions had been highlighted by the visit of the English Cholera Commission, which had conducted its enquiry in a makeshift laboratory in the Calcutta Medical College. In Dec, 1884, in accordance with a directive from the India office, the Government of India sanctioned at a cost of Rs.15000, the construction in Calcutta of India's first medical laboratory. Despite all efforts, Cholera remained space-specific and for the colonizers a disease of tropics which they denied had ever been transmitted outside the usual "Epidemic areas" which were said to be bounded by the limits of the monsoon winds. The Tropics, its location and atmosphere gave a pre-condition for opposition to large sanitary engineering works. There was cataloguing the colony into manageable categories, types and species and using the catalogue to generate discourses about the colony. They considered India as epidemiologically unique and so having less possibility of improvement. Colonial Governments lacked both the will and the resources to take effective action. Besides these, there were distinctions between officials and troops in regard to preventions and treatment. As for example, difference was observed between European and Indian prostitutes when it came to availing medical facilities. While cholera was stamped out in most European countries through improvements in sanitation and water supplies, the disease continued to ravage India and other poorer areas of the world.

The imperial power which wanted to give the colonized medicines since it was sick and law since it was criminal; gave an impression of that spaces and locations made the functioning difficult for them and segregating them was a necessity.

Facing extreme segregation the local inhabitant devised ways to counter both disease and the discourse. As the scientific discourse was vocal, explanatory, regularizing, the counter-science also exercised some power by being silent and secretive; an important characteristic feature of subaltern resistance. A discourse in science gains its credibility by communicating its procedures and techniques. These qualities of scientific discourse make it a convention- largely a Western tradition wherein reason, objectivity, explicitness, observation and procedure form the parameters of knowing a scientific truth. Certain Postcolonial text like Amitav Ghosh's "The Calcutta Chromosome" indicates at the policy of subjugation that included the realm of scientific discourse as well. Though a fiction, the book points towards the discrepancies that the western scientific discourse adhered to. It simultaneously shatters the myth of lone geniuses. The character Murugun

believes that Ronald Ross must have been inspired by some native Indian approaches to find a cure for the diseases. Murugun strongly believes in the possibility of simultaneous presence of many minds in malaria research. His instinct tells him that Malaria must have been treated in India even before the isolation of the malarial parasite. Murugan has a premonition that scientific experiments do not always begin in clarity but in fantasy. He also believes that a discovery is not a result of linear, cohesive, experimental processes but often made of accidents, intuitions, coincidences, unbelievable experiences and the contribution of 'Other mind'.

Through the quest of Murugun, the readers get to know how Mangala and Lakhan had interrupted Cunningham's research work in order to favour Ross and, under his cover, advance their experiments in the techniques of interpersonal transfer. Mangala is the Indian female subaltern who finds her agency in counter science to challenge the hegemony of colonial scientific discourse. She manages to use Ross and his laboratory in her treatment of Syphilis patients. While Ross gets involved in the study of malarial parasite, she discovers how the same parasite has a different identity and behavior in the body of Syphilis patients. Mangala also proves the point that one can achieve immortality if one dismantles the notion of autonomous selfhood. Her findings also challenge the fixities of Western empiricist science. Ghosh discredits the Western scientists for their inability to understand the principles and modes of alternative science. "The Calcutta chromosome" is less about malaria research and more about the unrecorded conspiracy in that. Ghosh puts forward the idea that subaltern science like the subaltern voice lacks the agency of expression and hence, it is often drowned in the history of science. The scientific practices of the Third World, especially the healing techniques do not occupy the space of texts; they occupy the space of silence, as pieces of unexplainable truth. "The Calcutta Chromosome" shows how to interpret this pregnant silence and to understand the validity of certain healing traditions. Ghosh suggests that silence is the only medium through which the cult of counter- Science can operate. He implies that the transmission of such knowledge is never achieved through language which is the primary tool of discursive logic. Ghosh indicates that as chromosomes are transmitted across people through silent mutations, counter science also operates in silent, secret modes of transfer. The cult members earnestly maintain the religion of silence and they resist any kind of communication with any outsider. The meaningful silence is a weapon of resistance against encroachment upon knowledge that is secretive and thus renders an unacknowledged power to the native practitioners.

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