Chapter 1
The Colonial Intervention

...in those days the government recruited men to clear the forests and make it suitable for tea cultivation. Each unit had 800 men, from various parts of the district. They were paid one rupee per day.

...it was to get rid of terrible poverty that he went to Assam. He was deeply attached to his mother and hence was anguish to leave her.

He hardly went outside the village, and had never traveled by train. Depressed and miserable; of being away from home, he fell ill, like others, of malaria and died ...

Reminiscing on his maternal uncle who died young of Malaria in 1930's in the forest of Assam, during the tail end of colonial dominance in India, George Francis in his late seventies spoke about the pervasive intrusions of colonial modernity into a little hamlet in Kerala in the southwestern part of the Indian subcontinent. Colonialism for him was about migration, of mobility, of disease and of death. As an ideology and as a practice, it had extended its reach to the remotest corners of the subcontinent and was writ large in the minds of the people, as a deliberate state policy as well as a fortuitous act brought about by the larger project of colonial governance and control. For the indigenous societies it was about expectations—among many others—born primarily from a deep sense of desire to bring about a change in the material conditions of life, though accompanied by the painful separation from the family and society, and hard work in a different and difficult terrain, which in the last instance was felled by disease and sealed by death.

The fundamental objective of British colonialism in India was the transformation of the indigenous economy to cater to the needs of industrialization in England. The development of the means of communication, the creation of a railway

network, the cultivation of commercial agricultural goods, etc. were designed to ensure that Indian economy functioned primarily as a supplier of raw materials to the home economy. The shift in patterns of cultivation from food crops to commercial ones and new forms of accompanied economic relations were an entirely new experience for the colony. Large-scale movement of population took place, mostly as labourers from rural areas to industrial sites or to hilly terrains to clear forest land so as to make them suitable for the cultivation of commercial crops. The new geographical and cultural experiences, as a result of migration and the overcrowding of population resulted in large-scale diseases and death of the work force. As early as 1806 William Bentick remarked, in a country where the state derived so large a share of income from the cultivation of the land, ‘every life saved, is additional revenue and an increase to the population and to the prosperity of the company’s territories in an incalculable ratio’.

The real blow to the functioning of the colonial political agenda in India was the outbreak of diseases that took a heavy toll of life both of the Europeans as well as of the subject population. This haunted the colonial political authority as nightmares, more persistently than even political dissents of the colony. Similarly, as white men succumbed to death, it shook the belief in the invincibility of European science and the superiority of western race in India. This was a serious source of concern for the ruling authorities. They were, therefore forced them to conclude that the ‘real’ enemy in the distant land was the diseases that remained veiled and assaulted recurrently at unexpected times and quarters. The death of the plantation labourers in the high ranges affected labour supply and hence retarded the flow of raw materials for capitalist production and thereby hindered profit; the mainstay of colonialism. Thus there was a deep sense of realization among the authorities that disease and death remained the biggest source of hindrance to the pursuance of colonial interests in India, which was difficult to be contained by western medicine.

37 David Arnold. Colonizing the Body; State, Medicine and Epidemic Disease in Nineteenth-Century India, Delhi: OUP, 1993, p. 89.
The colonial intervention in India brought about fundamental changes in the basic structures of the colony. The nature of the intervention had been the subject of scholarly discussions. One of the major arguments regarding the relationship between the metropolis and the colony was that, the colony instead of undergoing a process of revolutionization of its productive forces, experienced underdevelopment. The development of Indian economy under colonialism was in many ways different from that of the west.

The colony did not develop as a replica of the metropolis; rather, it was sustained as a laboratory where colonial ideologies of the post-industrialized Europe were experimented. One of the major areas where such truths were refigured and re-enacted was in the sphere of healthcare. Here indigenous notions of the human body, its therapeutic practices, its etiology, etc. were brought to the test of the scientific and moral gaze of the west. This was because western medicine was also an integral part of racial pride and hegemony based on science. While disease and ill health where seen as major reasons for the backwardness of Asian and African societies, European medicine became the hallmark of racial pride and superiority of British colonialism.

The sustenance of colonial political dominance in India was interlinked to the hegemonic existence of western science as an object of enquiry, as a theoretical project, and as a culture, which sustained the demonstration of the material objects through visual gaze of the physical object. As an ideology the instrumentalist notion of western epistemic paradigm and the accompanied superiority of western science remained the mainstay of colonialism in India, which was sanctified by governmental patronage and power. Western notions of science demanded certain cardinal principles related to facts, observation, interpretation, universality, naturalism, the knowledge based on written text, etc. The superiority of western science was interpreted as a result of the process of natural evolution unhindered by the influence of any cultural or other subjective notions. The victory of science was therefore seen as a result of the

40 Indian Medical Gazette, March, 1919, pp. 32-33.
process of natural selection, where history was in a constant state of evolution driven by the idea of progress and truth. The idea of the natural or the real was entrenched in the understanding of the victory of nature over the unreal, and against social and cultural life based exclusively on speculation. British rule in India was seen as the result of this naturalism and hence a product of science—an obvious way in which history unfolded.\(^{41}\)

Under colonialism—as an ideological apparatus—bodily ailments and its cure acquired relevance in the larger politics of the state. The formulation of hegemony over the physical human body remained the most important means of exercising colonial power. The control of the human body and its therapeutic methods was therefore integral to the functioning of science as a hegemonic enterprise. Superiority of western medicine, health of the individual, notions of hygiene, examination of the body, verification of medical drugs through clinical trials, among others, became the visual manifestation of this cultural project. Thus as Foucault argues, ‘as a general technique of health even more than as a service to the sick or as an act of cures, (medicine) assumes an increasingly important place in the administrative system and the machinery of power’.\(^{42}\)

As an object of visual gaze the physical body was dissected to prove its scientific rationality, with an epistemic pattern entirely different from those of the indigenous therapeutic practices. The basic understanding was, while western medicine was based on reason and observation, Indian systems of medicine seemed slavishly to follow tradition and was intermingled with priest craft and superstition.\(^{43}\) Thus the larger ideology of the project of colonial governmentality necessitated that western medicine as a superior notion of bodily practices and therapeutic methods was to be rather forced upon the indigenous societies.

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41 Indian Medical Gazette, April, 1919, p. 321.
attempt to find a viable solution for the control of diseases that they had to face in the subcontinent. The revival of indigenous medicine in India thus emerged as a desperate act, as a means to find indigenous solutions to the threat of indigenous diseases. The history of the revival and restoration of indigenous medical tradition in India had to be located in this complex socio-cultural process.

As European racial and political hegemony was threatened by the spread of tropical diseases, and as western medicine seemed ineffective, the political authorities had to formulate policies according to the perceived threat of ‘tropical diseases’. The focus of colonial gaze henceforth centered on the ecology of the tropics, and its environmental conditions that provided necessary situation conducive for the breeding of mosquitoes and spread of diseases. The search for alternative means for curing physical bodies of the ‘Tropics’ remained, for the authorities, the biggest puzzle throughout the entire stretch of colonial dominance in India. Though less by conviction and more by necessity, colonial political authorities were forced to accommodate and integrate the therapeutic practices of the indigenous societies.

Nonetheless, the proponents of western medicine summarily rejected that the basic framework of tridosha siddhantha of Sanskrit based medicine cannot be accepted as a valid foundation for understanding the human body and its etiology of diseases. As their primary objectives was to locate indigenous medicines for diseases, which were familiar in Europe, the practitioners of indigenous medicine thus sought to prove their credentials based on their ability to cure diseases which was considered relevant according to European experience. Secondly, their basic enquiry was to understand the effect of indigenous drugs on specific bodily parts, as per western medical understanding and not of the indigenous medical tradition, whether of the classical or of the local and contemporary practices of the indigenous society. Thirdly, colonial gaze was focused on the identification of the specific compounds contained in the drugs, which in turn led to the cure of the diseases. Fourthly, the object of enquiry was to realize the ability possessed by indigenous drugs to address bodily symptoms and causes of the diseases understood in terms of western medical knowledge. Finally, and
Under colonial dominance, medicine manifested as a site for colonial gaze in the form of diseases in the individual body, and epidemics in the larger social body, enabling various forms of contestations and negotiations between western knowledge on medicine with the different indigenous healing techniques and practices in India. The unfolding of science as a project of colonial governmentality is thus integral and cardinal to the history of colonialism itself. Thus as Kavita Philip argues science was central to colonialism in the same way ‘colonialism’ was central to nineteenth century science.\(^4\)

The establishment of the authority of science in India took place in various stages. Among the manifestations of this authority was that medicine and health of the people became important means of colonial control. Medical intervention impinged directly upon the lives of the people, assuming an unprecedented right (in the name of medical science) over the health and bodies of its subjects. As medicine registered the imperial determination to re-order the environment and to refashion indigenous societies and economies in the light of its own precepts and priorities,\(^5\) indigenous medical practices of the sub-continent became the most important site where the medical, rather political space for this cultural control was negotiated. For the indigenous medical practice this was in contradistinction to the pre-colonial past, where health and medical care were matters for individual initiative or at most communal effort. Under imperial rule they became part of a wider process of state regulation and centralized control.\(^6\)

Nevertheless the major bottleneck to the pursuance of the hegemony of western medicine and science in the subcontinent, during the entire stretch of colonial dominance, was the visitation of contagious diseases, which western medicine found difficult to conceptualize and control. The state thus had to recognize the therapeutic practices of the indigenous societies and was forced to accommodate them in their


\(^{6}\)Ibid, p. 18.
most importantly, the discourses on the relationship between western and indigenous medicine opened up the question of 'the quack', and what quackery means.

A revived indigenous medicine thus emerged on the fringes of western medicine and its colonial ideologies. The integration or reorganisation of the therapeutic practices of the indigenous societies by western medical authorities thus arose as a desperate act rather than as a conscious attempt towards promoting healthcare practices. Thus within the limited amount of cooperation and accommodation that marked the relationship between indigenous medical forms and the western ones, the basic ideology was driven by contempt of the therapeutic practices guided by a desire to hegemonise them. Attempts to develop indigenous medicine were therefore largely driven by contingencies that arose over a period of time rather than by a conviction in the value of the epistemic basis of the indigenous medicine as a knowledge form.

The contemporary healthcare practices were to be reorganized based on the scientific and clinical practices of the west. The changes that the colonial authorities sought to bring about in the indigenous medical traditions were reflections of the various colonial understandings on indigenous societies. Indigenous medical modernization meant that knowledges had to be necessarily verified, examined and analyzed. A debate on the strength of the indigenous medicine was not possible without accepting the notions of western science. Political legitimacy was sought by patronizing Indian learning. Debates on modern science ultimately ended up in the

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47 Michael Foucault discusses the emergence of modern medicine in Europe. He argues that 'what occurred was not a 'psychoanalysis' of medical knowledge, nor any spontaneous break with imaginary investments, positive medicine is not a medicine that has made an 'objectal' choice in favour of objectivity itself. Not all the powers of a visionary space through which the doctors and patients, physiologists and practitioners communicated (stretched and twisted nerves, burning dryness, hardened or burnt organs, the new birth of the body in the beneficent elements of cool waters) have disappeared; it is rather, as if they had been displaced, enclosed within the singularity of the patient, in that region of subjective symptoms 'that-for the doctor defines not the mode of knowledge, but the world of objects to be known. Far from being broken, the fantasy link between knowledge and pain is reinforced by a more complex means than the mere permeability of the imagination; the presence of disease in the body, with its tensions and its burning, the silent world of the entrails, whole dark underside of the body lined with endless unseeing dreams, are challenged as to their objectivity by the reductive discourse of the doctor, as well as established as multiple objects meeting his positive gaze. Michael Foucault, The Birth of the Clinic, An Archaeology of Medical Perceptions, New York: Vintage Books, 1975.
legitimacy of western science.\footnote{C.A. Bayly, \emph{Empire and Information}, p. 253.} Hence western understanding and debates on science were reflections of what the west believed and internalized as the basic structure of truth.

The relationship between western medicine and indigenous ones was not static rather it developed and matured over the period as colonial rule over the sub-continent stabilized and various forms of domination strengthened. The history of indigenous medical modernization is thus integral and contingent to the larger colonial agenda, its forms of conceptualization and understanding of the indigenous knowledge forms which developed in stages. The central concern of this chapter is to understand the character of the colonial political authority in the functioning of indigenous medicine and science and how colonial necessities shaped the formation of indigenous medical revivalism in Kerala.

**Historiography**

The relationship of British colonialism with indigenous cultural practices of the sub-continent had been variously described and highlighted. Initial attempts to frame the cultural practices of indigenous societies, in its totality or in fragments, were undertaken largely by colonial administrators. They pointed out that the subcontinent was immersed in superstition and blind belief and that colonial dominance transformed indigenous societies for good. They argued that western interventions in society, culture and life of the indigenous society were born out of a deep conviction in the responsibility of Britain in bringing about changes in the world, an argument that found expression in the phrase ‘White Man’s Burden’.

Thus the basic premise was, with all its weakness, British governance in India was primarily for the good of the people. This for a very long period functioned as the
basis of the justification for colonial dominance in the world.\textsuperscript{49} However, criticism to such conceptualization emerged, as colonial intervention came to be located within the frame of the larger political and economic contexts in which colonialism rested.\textsuperscript{50} This was largely due to the emergence and influence of new streams of thought, which was dominated by the Nationalist and Marxian ideologies, based largely on an economic critique of the impact of colonialism. While nationalist historians sought to prove that the politics of production relationship was unfavourable to the Indian capitalist class and the Indian economy\textsuperscript{51}, Marxian scholars attempted to prove how the economic impact of British colonialism created a proletariat class, deprived of their due share in the profits of production and distribution of goods.\textsuperscript{52} Cohn notes that early attempts to understand the functioning of colonialism in the subcontinent were to locate the same within the framework of the development of world capitalism and modernization. He sought to prove how colonialism itself developed and functioned as a cultural project of control.\textsuperscript{53}

Though various strands of understanding the nature of British rule in India were explored, analyzed and discussed, medicine as a point of reference on the functioning of the colonial ideology remained relatively marginal. The argument hitherto held was that western intervention in Indian medicine was guided purely by philanthropy, independent to political or colonial dominance and hence the changes that the colonial authorities initiated in the sphere of indigenous medicine were obvious results of western advancements in science and technology.\textsuperscript{54} However critiques of western

\textsuperscript{49} Macaulay spoke in the House of Commons on the 10\textsuperscript{th} July 1833 on the Charter debate that 'it may be that the public mind of India may expand under our system till it has outgrown that system; that by good government, we may educate our subjects into a capacity for better government, that having been instructed in European knowledge, they may in future age demand European institutions. Whether such a day will come—I not know. But never will I attempt to avert or retard it. Whenever it comes it will be the proudest day in English history. to have found a great people sunk in the lowest depths of slavery and superstitions, to have so ruled them as to have made them desirous and capable of all the privileges of citizens would indeed be a title to (glory all own)'). Eric Stokes, The English Utilitarians and India, Delhi: Oxford University Press, 1959, reprinted in 1982, p. 45.

\textsuperscript{50} Dadabhai Naoroji, Poverty and Un-British Rule in India, Delhi: Oxford University Press, 1959, reprinted in 1982, p. 28

\textsuperscript{51} Ibid, p. 31.


\textsuperscript{54} David Arnold, Imperial Medicine and Indigenous Societies, p. 3.
colonialism dismissed the banges initiated by the British as part of a larger political agenda for colonial dominance and control.55

The varied facets of the negotiations between western medical epistemology and indigenous medical practices have often been the focus of scholarly discussions.56 That Western intervention brought about rapid and fundamental changes in Indian society, culture, science, and technology has been widely accepted. However the nature of the changes that colonialism brought about in the subcontinent, the ideological structures that necessitated these changes, the developments that took place, both material and ideological—within the colony as well as in Europe—which formulated western attitudes towards indigenous society and medicine, needs further exploration and analysis.

However, of late, scholars have tried to demonstrate as to how British colonialism in India extended its reach well beyond economic exploitation and had manifested in a multitude of ways. The new political situation demanded that an ideology conducive to the functioning of colonialism was pertinent for political dominance. This stemmed from the realization that the establishment of colonial political power in India was not based on the use of physical force rather it was sustained by a complex network of institutions, which interacted and ensured the exercise of British hegemony in India. Western institutions of law, education, health care, bureaucracy, police etc., were henceforth implanted into the indigenous society as a superior version of truth and science, which seemed to have the ability to salvage the society from its backwardness.

Understanding the Orient: The Collection of Biological Wealth

The engagement of the west with the cultures and norms of the indigenous society of Kerala started before the formal establishment of the colonial political control in the subcontinent. The Portuguese, the Dutch, the Danes and a host of other western countries engaged in their attempts to compile the material wealth and social knowledges of the indigenous society even before the arrival of the British. The geographical exploration of the Europeans towards the non-European world, in its earlier stages, was guided by a zealous desire to acquire the natural produce for individual and state profit. The aim was thus to collect the biological wealth of non-European societies, to meet the demands of the rising population in an agriculturally starved Europe.

Drayton argues that the emergence of Christian morals and norms in the post-enlightenment era was the guiding force in the search for indigenous herbal knowledge. He argues that colonialism was primarily the search for biological wealth, driven by the faith and desire to reclaim the ‘lost land’ as mentioned in the book of genesis.\(^57\) Christianity provided the ideological support for geographical expansion. Non-European knowledge transformed the scope and character of European knowledge as it brought apothecaries and philosophers into contact with both strange plants and with the science and pharmacy of non-European people.\(^58\) The voyages of the European travelers into different parts of the globe transformed the science of botany and natural history. European knowledge of natural history and botanical wealth of the world was seen beyond what had hitherto informed Europe.\(^59\) Richard Grove argues that there was a shift in the nature of botanical enquiries of Europeans towards the non-European world. By the seventeenth century there was an increased interest in transferring

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58 Ibid, p. 45.
botanical wealth from one country to another. This was accompanied by a desire for an expansion of colonial empires in promotion to trade.\footnote{Ibid, p. 190.}

As traders established political dominance and control of the land, the collection and transfer of biological wealth occurred in an organized manner. The officials responsible for administrative purposes henceforth also functioned as information gatherers on the various flora and fauna in the region under their control. The first systematic investigation of the ecology and its medicinal value on the southern part of the subcontinent was undertaken by Vaan Rheede, the Dutch governor of Malabar, in 1678, whose \textit{Hortus Malabaricus}, running into twelve volumes on the plant wealth of Malabar published from Amsterdam contains, 'information and illustrations of 742 plants belonging to 691 modern species, together with their descriptions, medicinal and other uses.'\footnote{K. S. Manilal, \textit{Vaan Rheede's Hortus Malabaricus with Annotation and Modern Botanical Nomenclature}, Thiruvananthapuram: University of Kerala, 2003, p. vii.}

Three Brahmans namely Appu Bhat, Renga Bhatt, and Vinayak Pandit and an Ezhava named Itti Achutan, were engaged by the Dutch in gathering information and compiling the text. The testimonies given at the preface of the text is as follows,

I Renga Bhatt, Vinayak Pandit and Appu Bhatt, all three from the race and religion of Brahmans and ancient gymnosophists in the district of Cochin as per the order of the noble Lord, Henry A. Rheede, Governor of Malabar territories and of the city of Cochin, through our servants who have the knowledge of trees, plants, herbs and creepers, caused then (of original) to be brought from the Mabar region with their flowers, fruits and seed to the above mentioned city, in order that they may be drawn and described, the names of which are written in our books \textit{Manhaningitnam} in which are contained their medicinal powers and properties and besides these we have added to these whatever we have learned and observed with long experience and with great labour and sweat and in order that this book may be completed, we have worked for the space of almost two years, so that each and anybody who will read it or see it, could have faith in it which he himself would have given, if he would have experienced the things written in it; we swear therefore according to our custom that all that is contained in it is true, in testimony of which we made these papers which we have signed with our own hands. Given in the city of Cochin, on the 20th day of April, 1675.\footnote{Ibid, p. iv.}
Even when the testimonies of the Brahmans mentions that the knowledge of the indigenous herbs and plants they provided to the Dutch was mentioned in their book *Manhaningtnam*, the multi-volume treatise makes no further mention about the text or the methodological practices of the indigenous societies as mentioned by the text. Thus, even though the Europeans were interested in the medicinal use and material value of the plant varieties of Kerala, it seems that either the explorers were not interested in the theoretical and epistemic foundations of indigenous medicine, or that the healthcare practices of the society in its contemporary forms were distinct from the larger *tridoshā*, theory as informed through the Sanskrit texts. The early settlers therefore made no distinctions between the classical and the folk medical traditions of the indigenous societies. It seems that the search for the classical and the folk, distinguished in terms of superior knowledge, signified by its adherence to written text and scientific rationality—validated by the gaze of instrumentalist rationality, or not—emerged as a later day phenomenon. It also seems that there was a certain degree of interaction and negotiation between the various therapeutic practices of the indigenous society, as most of the information provided by the Brahmans was accumulated from the information provided by their servants who were from the lower order of the society. However, the nature of the relationship underwent fundamental changes over a period of time and caste as a category of social relationship seemed to have become rigid.

This was the beginning of a series of European enquiries into the ecology, land, culture, religion, medicine and a host of other aspects on which the Europeans were entrusted to rule, driven by the desire to cognize, conquer and understand the mysteries of the land that they had to encounter.\(^{63}\) Hence, the urge to explore the natural wealth of the non-European world was guided by both the desire to enrich the botanical knowledge, as well as to increase the material wealth of Europe. There was a need to gather the knowledge of the natural resources in the west because the good of the land

was to strengthen the economy of the nation states in Europe.\textsuperscript{64} This search for the plant wealth of non-European lands drastically changed the botanical knowledge of Europe.\textsuperscript{65} This was due to the fact that early intervention of the west in India was interconnected with its larger political objectives—the knowledge of the indigenous societies for the systemic extraction of wealth.

British Colonialism and Exigencies of Governance

The nature of the relationship between the British government and the indigenous society was in certain ways fundamentally different from the earlier settlers. The shifts in the nature of relationship was mediated largely by the shift in the political status of Britain as a colonial power, from a mercantile company, to political dominance, and governance, accompanied by a transformation in the understanding that emerged out of the realization that colonial political dominance in India was not permanent.\textsuperscript{66}

Unlike early European settlers, the primary concern of the British was not merely the exploration of biological wealth of the east towards enriching the botanical knowledge and science of the west, rather their aim was to codify and conceptualize the various cultural practices in the process of facilitating the larger project of governance. Various British travelers and administrators like, Logan, Innes, Buchanan and others\textsuperscript{67} wrote extensively on the behaviours and practices of the society, which they encountered.\textsuperscript{68} The detailed instructions given to Buchanan from the Government of Madras ahead of his travels, in 1807, through South India is also a synoptic

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\textsuperscript{64} Drayton, \textit{Science; Imperial Britain}, p. 4. \\
\textsuperscript{65} Ibid, p. 19. \\
\textsuperscript{66} Eric Stokes argues that the fierce downright exterior, the instinct of his own religion, the sense of a moral code and a constant dwelling under an unwritten law of duty, the eager and crude intellectual appetite—all the imagination must summon to picture the Englishmen of the early Victorian age in India, are really drawn from English social history. See Eric Stokes, \textit{The English Utilitarians and India}, Delhi: Oxford University Press, 1959, 1982, p. xiii. \\
\textsuperscript{68} Buchanan for instance, believed that many districts of north India were bereft of medical knowledge because the people there used only 'spells', abstinence, and some vegetable purgatives, despite the fact that Indians would have believed that this was appropriate medicine. Spells were hived off into the category of 'superstition' and prayers in the domain of religion. C. A Bayly, \textit{Empire and Information}. p. 275.
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description of the manner in which colonial search for indigenous knowledges was based. It specified that,

The next immediate object of (your) attention should be, those natural productions of the country, which are made use of in arts, manufacturers or medicine and particularly those which are of external commerce.... the clothing of the inhabitants in general, in regard to their food, clothing and habitations will engage your particular attention: you will also enquire how far their situation, in these respects, may have been effected by the different changes in these government. The different sects and tribes of which the body of the people is composed, will merit your observance; you will like-wise note whatever may appear to you worthy of remark in their law, custom etc. and state with as much accuracy as may be in your power, the nature of their common usages in matters of personal traffic at their markets, their weights and measures, the exchange of money, and the currency among the lower orders among the people and such matters in respect to their police, as may seem to you to have an immediate or particular tendency towards the protection, security and comfort of the lower orders of the people.  

For the British the aim was therefore to constitute a comprehensive framework for the formulation of means to systematically exploit the indigenous wealth of the country. Thus, the state had to forge a long-term bond with their subject population so as to ensure that the indigenous society functioned as the consumer for finished goods from England. They were also guided by the realization that the lower orders of the society possessed large amount of social knowledge concerned to industry, arts, medicine and all aspects of life that were independent to those of the Sanskrit texts. This was because, while the higher Varnas engaged in priestly, warrior or trading professions, it was the lower classes that had engaged in the production of material goods and agriculture of the indigenous society.  

The officials of the East India Company realized that tangible knowledge forms of the society had to be integrated as an addendum for British industrial production and

69 Francis Buchanan, A Journey Madras through the countries of Mysore, Canara and Malabar, for the Express Purpose of Investigating the State of Agriculture, Arts and Commerce; the Religion, Manners, and Customs; the History Natural and Civil and Antiquitie. Vol.1, New Delhi: Asian Educational Services, 1807, 1988, pp. viii-xi.  
70 Kapil Raj argues that with the establishment of sedentary way of life and the caste system that accompanied it, there occurred concomitantly a differentiation in knowledge—an hierarchical stratification—with contemplative and other forms (linguistic, astronomy, mathematics and later astrology) related to religious practices at the apex, and practical crafts like poetry, carpentry, spinning, weaving, irrigation technology, etc. relating to material needs at the bottom. Kapil Raj, 'Knowledge, Power and Modern Science: The Brahmns Strike Back', In Deepak Kumar (ed.), Science and Empire, Essays in Indian Context (1700-1947), Delhi: Anamika Publications, 1991, p. 116.
also to ensure that finished products from Britain replace the products of the indigenous society. While it was clear that the objective with which Buchanan was made to collect social knowledges was primarily to facilitate trade, it was also underlined that the explicit aim of colonial authorities was to provide protection to the ‘lower orders of the society’. However, in its reality, the lower sections were to be integrated as subsidiaries in the larger capital market as labour for the supply of raw materials and their market networks had to be disrupted and opened to the west in the process of sustaining them as consumers of finished products from England.

Thus the primary ideology behind the working of colonialism in India was to accumulate and integrate the knowledge forms of the society, underpinned by the exercise of physical and ideological force. There was a realization that matured among the authorities of the East India Company that knowledge related to the production and distribution of goods, vital and necessary for the interests of England, lay with the lower orders of the society and thus had to be codified and integrated in the interest of industrialized England.

Orientalists and Codification of Knowledge

The nature of interaction between the west and the indigenous society was much more complex, which evolved over the period. There was a growing fascination and interest for oriental behaviours and practices by the westerners and a large number of people sought to understand and conceptualize the cultural practices of the subcontinent. The attempt to understand indigenous society was a means to conceptualize it. The act of conceptualizing the society was possible only through visualizing it through a history. The contemporary society and its cultural practices, according to them, were based on codified literatures and texts of the past. The search was therefore to understand and constitute a past that had its origin and which was interpreted through the Sanskrit texts of the Vedic period and its commentaries. The contemporary state of affairs as per their interpretation was a corruption of the past—a fall from the ‘glorious’ era of science, literature and culture.
This led to the emergence of Orientalism as an academic discipline, which meant a fascination with a large number of indigenous cultures and practices. The emergence of Indology as an institutional practice was a result of the desire to cognize the various streams of indigenous knowledges and practices. The act of cognizing indigenous society was in a sense an act of dominating the indigenous society. 71

The first systematic attempt towards overcoming the socio-cultural difference between the west and the east was undertaken by William Jones through the establishment of the Asiatic Society of Bengal. 72 For Jones the apparent monopoly of a form of indigenous knowledge by certain classes could only be broken through translation. This would mean that the British would be as conversant in their tradition as they were, and that their idioms would be de-sacralized by the very act of translation. 73 Jones expressed again and again the need to learn Sanskrit in order to curb the legal power of the pundit. His main purpose was to undermine what he perceived to be the legal authority of the sacerdotal classes of Bengal. 74 As a result, large number of Sanskrit texts were translated and brought to light.

In the act of understanding indigenous society and its knowledge forms, Sanskrit texts were visualized as the sole knowledge base of the indigenous society. Sanskrit literature was highlighted—if not glorified. Knowledge about ancient Sanskrit texts validated their claim to the idea of India. Written word and literature was identified as the foundation from which any enquiry into the knowledge of the indigenous society was to be made possible. In a letter of 1791, Jones described this projected digest as a noble legacy from ‘me to three and twenty millions of black

71 James Princep who had done remarkable work in Indology in Banaras patronized astronomy. A new observatory was planned there in 1840's and the local British community hoped that it would overcome the large Jyotish establishment in the city. C. A. Bayly. Empire and Information, p. 254.
72 The Asiatic Society of Bengal was founded in 1781.
74 Ibid, p. 20.
British subjects. As early as 1786, he described himself as 'the Justinian of India', and declared, 'my great object, at which I have long been labouring, is to give our country a complete digest of Hindu and Mussalman law.'

Gyan Prakash argues that shifts in the political status of colonial Britain over the period underlined a need for a necessary shift in the organization and orientation of different knowledge systems. The beginnings of science’s cultural authority in India lay in the ‘civilizing mission’ introduced by the British in the early nineteenth century and as the East India Company consolidated its territorial control there was a necessary shift in its character. This ‘mission’ proceeded by articulating that the indigenous society, culture and science in its contemporary form were a degeneration, from a ‘glorious past’.

The collection and codification of the cultural practices of the contemporary indigenous society as an anthropological gaze went hand in hand with the codification and translation of ancient Sanskrit texts. There was a realization that the knowledges, which the indigenous society possessed, in a broad sense were, firstly, the systemic knowledge, as understood through the Sanskrit texts, of which the Brahmans were the main possessors as a sacerdotal class and secondly, there were fragmented, isolated and localized knowledge, which were part or independent to the dominant knowledge forms of society. They were also of the understanding that the social order was based on a four-fold division of the society, which was sustained by a theoretical framework as was enunciated in Sanskrit literature and texts. These texts though had interpreted and ensured the sustenance of a fragmented society for the systematic exploitation of labour power of the lower orders for industry, agriculture and trade, had also created the Brahmanical social class, who had the authority over the philosophical knowledge of the broader Hindu society. The British soon realized that a meaningful interaction

76 Jones to Sir John Macpherson', 6th May 1786 of letters, ii. 699, in Javed Majeed, Ungoverned Imaginings, p. 16.
77 Gyan Prakash, Another Reason, p. 13
with the indigenous society would be possible only by depriving the Brahmanical order of its supremacy as the sole claimants of indigenous social knowledge.

Nevertheless colonial objectives were also devised by the contingencies of the larger project of governance. As the East India Company acquired more territories, and its forms of governance matured and acquired concrete shape, they needed the knowledge about the law systems, cultures and practices of the people so as to efficiently carry forward the process of governance. As the political authority centralized, all knowledge forms within the indigenous society also had to be seen through an institutionalized form. The state became the embodiment of knowledge, arranged as layers in terms of its administrative and bureaucratic forms. They realized that indigenous society and the state system also had to be centralized and codified. Thus the colonial authorities sought to centralize the knowledge forms of the Hindu society as legal systems, therapeutic practices, etc. This led to the creation of binaries, between the indigenous as well as the western. As binaries were constituted, the validity of indigenous knowledge was to be explored, so as to be exposed, in turn. The negotiation between two contradictory institutions, the western medicine and the indigenous one, was decisive in determining the validity of indigenous practices, which provided justification for colonial dominance.

As the East India Company consolidated its territories and a systematic political order was put in place, they had to integrate, at least a sizeable section of the social elites of the indigenous society towards the process of governance. Francis W. Ellis, of the Madras Civil Service had drawn up a list of what he thought were the most useful and important compilations of Sanskrit works for the purpose of forming a ‘practical guide’ for the administration of Hindu law in the Madras presidency. Lancelot Wilkinson, assistant resident in the Central Indian State of Bhopal argued that ‘only by

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enlisting the better parts of Brahminical knowledge could Western ideas be infiltrated into India and native improvement begin. 79

By the beginning of the nineteenth century the trading company had evolved itself into an established political authority in controlling and organizing the state systems. The exigencies of state mechanism entrusted that knowledge forms had to be codified in the process of exercising control and systematically exploiting the resources for the benefit of the metropolis. But how codification was to be made possible remained the biggest challenge for the political authorities. According to the Orientalists, the rationalist mode of scientific enquiry had been long forgotten.

Western interventions sought to prove that reconstituting indigenous traditions with the inculcation of science within tradition was possible. This was deemed to be possible through the compilation of the scattered pieces of literature, accompanied by its institutionalization. Thus in effect they sought to revive the Sanskrit texts, to codify it, and also to create a body of men who could handle it logically. They argued that indigenous science was neglected due to the fact that it was overshadowed by an over emphasis on religious speculation. The responsibility of the state, according the Orientalists was to retrieve, science from religion, and to ensure that a rational order of thought was promoted, in an organized and institutionalized manner. Thus a distinction between science and religion was articulated and argued. The outline for the revival of indigenous medicine and science based on the instrumental rationality of the western epistemic paradigm was thus framed. In 1811, Colebrooke, one of the leading figures of the Orientalist movement stated that,

It is a common remark that science and literature are in a progressive state of decay among the natives of India. From every inquiry, which I have been enabled, to make on this interesting subject, that remark appears to me but too well founded. The number of the learned is not only diminished but the circle of learning even among those who still devote themselves to it appears to be considerably contracted. The abstract sciences are abandoned, polite literature neglected, and no branch of learning cultivated but what is connected with the peculiar religious doctrine of the people. The immediate consequence of this is the disuse and even actual loss, of many valuable books, and it is to be

79 C.A. Bayly. Empire and Information, p. 257.
apprehended and unless government interfere with a fostering hand, the revival of letters may shortly become hopeless from a want of books or of persons capable of explaining them.\textsuperscript{80}

The Orientalists were skeptical of replacing indigenous institution with the western ones for the purposes of governance. They demanded that the imposition of western literature, law system, science and ways of living in the indigenous society would not be tantamount to their interest. For them, indigenous society had to be seen and preserved, in the way it existed. But the fundamental question as to how the society existed and how it needs to be preserved remained the central source of concern.

Though it seemed to have made a sympathetic intervention into the study of the indigenous practices, culture and life of the native society, it depicted the society as a weak one that needed change. Orientalism, thus as a discourse, as an enormously systematic discipline in Europe was able to manage and even produce the Orient politically, sociologically, militarily, ideologically, scientifically and imaginatively. Orientalism was thus a western style for dominating, restructuring and having authority over the Orient. It was not just a means of dominating the Oriental society; the knowledges and literature produced in the west on indigenous societies rather became an accepted grid for filtering into the western consciousness. This was because the knowledge forms, ways of life and behavioural patterns were examined and explored and compared in the light of the institutions, culture and behaviour of the west.\textsuperscript{81} Thus the indigenous knowledge forms were accepted only through a systemic verification of the paradigms of the west.

In short, a section of the British sought to constitute an indigenous society based on Sanskrit and its textual tradition so as to disprove the Sanskrit claim for superiority and spirituality. However, as colonial curiosity for indigenous knowledge gained momentum, a large number of Brahmans ceased the opportunity to master Sanskrit literature and thereby demonstrate their social hegemony over the indigenous society.

As a result closed knowledge, which was a prerogative of the Brahmans, opened up, leading to the creation of larger social elite. However in the act of disproving the Sanskrit texts as lacking in scientific rationality, and immersed in an overemphasis on spirituality, the colonial authorities validated and recognized it. In the attempt to break indigenous hegemony of the social elite rooted in Sanskrit they attested it.

However, a section of the English men, namely the Anglicans, argued that there is nothing worthwhile in Indian society and culture that could be concluded as science. This weakness of the indigenous mind to conceptualize the western scientific episteme emerged from a belief in the superiority of the western race. They argued that the weakness of the Indian medicine and science was a weakness of the Indian mind to conceptualize the finer threads or intricate notions of western science.\(^2\) This was articulated as a result of racial superiority, which the westerners enjoyed over the Indians. The capability of the Indian mind to understand western medicine and science was often highlighted with much suspicion. While western science based on an instrumentalist rationality, was seen as the only possible form of truth, the ability to understand this truth was concluded as the strength and superiority of western society in terms of their racial strength. They argued that the refractoriness of the (British) mind rests on the inherent refractoriness and lack of docility.\(^3\) Contrary to this the Indian mind consists of strings of words rather than of intelligent conceptions.\(^4\) The victory of science was thus understood as the victory of the western race. A dichotomy was constituted between science and tradition and between a Western and an Indian race, ultimately leading to the formulation of a dichotomy as one between strength and weakness.

As the political authority centralized, all knowledge forms within the indigenous society also had to be seen through an institutionalized form. The state became the embodiment of knowledge, arranged as layers in terms of its administrative and bureaucratic forms. They realized that indigenous society and the state system also

\(^2\) Indian Medical Gazette, 1922, p. 147.
\(^3\) Indian Medical Gazette, January 1901, p. 23
\(^4\) Indian Medical Gazette January 1901, p. 23
had to be centralized and codified. Thus the colonial authorities sought to centralize the knowledge forms of the Hindu society as legal systems, therapeutic practices, etc. This led to the creation of binaries, between the indigenous as well as the western. As binaries were constituted, the validity of indigenous knowledge was to be explored, so as to be exposed, in turn. The negotiation between two contradictory institutions, the western medicine and the indigenous one, was decisive in determining the validity of indigenous practices, which provided justification for colonial dominance.

This set in motion one of the most serious debates on the nature of western political intervention in the subcontinent. The need for change was underlined, but how the change was to be brought about continued to be the central theme of the debate among the colonial authorities. Langford argues that Thomas Babington Macaulay's famous minute on Indian education may be understood as the victory of Anglicanism over Orientalism, which underlined that all higher education would be conducted in English and modeled on the British system. However, 'Macaulay's minute' cannot be conceptualized as merely the victory of Anglicanism over Orientalism’ rather the basic nature of the project of state, underlined that the functioning of the state whether colonial or indigenous under modernity was bounded by the compulsions of governance. The minute was a stated assertion of these compulsions. It notes,

It is impossible for us, with our limited means, to attempt to educate the body of the people. We must at present do our best to form a class who may be interpreters between us and the millions whom we govern; a class of persons, Indian in blood and colour, but English in taste, in opinions, in morals, and in intellect. To that class we may leave it to refine the vernacular dialects of the country, to enrich those dialects with terms of science borrowed from the Western nomenclature, and to render them by degrees fit vehicles for conveying knowledge to the great mass of the population.

Thus the objective with which the officials of the East India Company sought to bring about changes in the indigenous knowledge systems were primarily born out of administrative necessities, while the Orientalists were concerned with the codification and constitution of a history of the subcontinent, whereby the epistemic paradigms

were based on the Sanskrit literature of the past. The decision to impose English system of pedagogy in India was to ensure that a class of social elite was to be created who linked the rulers with the ruled. The desire was thus to create a class of men, 'Indian in blood and colour, but English in taste and opinions, in morals and intellect'.

Thus the responsibility of bringing about changes in the indigenous society was left to the social elites, who would in turn bring about changes in the indigenous society. However, for the political authorities, the subject population remained 'the other', and they had to be subdued and accommodated. The accommodation and subjugation also meant that the political authorities had to maintain its physical and ideological hegemony over its subject population.

The aim was to create a class of the Indian elite who would be convinced of western superiority in medicine, laws and science. There was a realization that the ideological distance that separated the colonial political authorities and those on whom they exercised control and power was to be eliminated. Championing European science was to demonstrate the superiority of western science, thereby to discard indigenous society as redundant. This was primarily aimed at generating ideological consent for the continuance of British governance in India. This was because it became impossible on the part of the state to formulate a coherent strategy on the manner in which possible integration of the indigenous science could be achieved.

Hence the entire spectrum of colonial debate between the Orientalists and the Anglicans opened up two basic trends with regard to indigenous society and its knowledge forms. Firstly, it validated Sanskrit tradition as the sole proponents of indigenous knowledge. Secondly the same was explored and analyzed through the instrumentalist rationality of the western medical episteme. As medicine became the most important of the visual manifestation of the claim to science, all contemporary healing techniques came to be visualized as offshoots of the larger Sanskrit tradition. Secondly, the debate between the Orientalists and the Anglicans though seemed to have proceeded in two different directions, converged at the point of recognizing the

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87 Ibid, p. 5-6.
superiority of the instrumentalist rationality of western science. However whether the indigenous medical traditions (if at all) need to be revitalized based on the paradigms of science or be completely discarded in favour of western medicine remained the primary bone of contention. While the government declared its stated intentions to introduce changes in the society through the medium of western institutions, a whole new network of institutions emerged in India.

As Prakash argues, constituting India went hand in hand with the establishment of a grid of modern infrastructure and economic linkages that drew the unified territory into a global capitalist economy. Medical doctors and scientists followed the railroads out into the territory in an effort to isolate diseases, control epidemics and nurture bodies into healthy productivity. As the ‘long nineteenth century’ wore on bit-by-bit a new structure of governance crystallized, and India emerged as a space assembled by modern institutions, infrastructure, knowledges and practices.

Exploration of Indigenous Drugs

By the early decades of the nineteenth century scholarly attempts to understand indigenous medicine emerged in India. During the same period there was also an increased stress on the anatomical structure of the human body. The major criticism on indigenous medicine was directed at its stress on holistic medical practices and on divinity.

Interest in indigenous medicine by surgeon scholars like Ainslie, Heyne and Wilson were primarily drawn to understand the useful values of indigenous medicine. They were of the view that in the modern context, indigenous medicine was in a state of decline. Wise argues that the spread of European medicine led to a situation

89 Ibid, p. 11.
91 Ibid, p. 78.
whereby Indian physicians lost interest in the study of Sanskrit and ancient medicine and henceforth substituted it with superstition and quackery. All indigenous drugs, the plant variety and the methods of preparation were collected, discussed and observed by the proponents of western medicine so as to examine and prove its scientific validity. Koman who undertook an inquiry into the value of indigenous drugs in Madras states that,

The Indian Pharmacopoeia edited by Warring in 1868 may be said to be a compendium of the British and Indian pharmacopoeias, as it not only contains the British Pharmacopoeia of the period but also gives a description of the botanical names, characters, preparations and uses of almost every useful Indian drug which were ascertained after careful research and experimentation by the followers of western medicine, both European and Indian.

The use of western medical categories in understanding indigenous practices and drugs strengthened by the end of the century. On an interpretation of the plant called Herpestis Monneria or Nir Brahmi (tamil), Dymock considers the opinion given by Dutt and Ainslie and then proceeds to explore its chemical composition as follows,

Dutt states that this plant is the Brahmi of the native physicians of Calcutta, where it is considered to be a nerve tonic useful in insanity, epilepsy, fever, etc., It is certainly not the Brahmi of the Nighantas, but would appear to be the plant called jala-Brahmi or water Brahmi... Ainslie says that in South India the Gratiola Monneria is considered diuretic and aperient, and useful in that sort of stoppage of urine, which is accompanied with obstinate constituents. Roxburgh mentions that the juice mixed with petroleum as an external remedy in rheumatism. For analysis the whole plant was used, dried at a low temperature and exhausted with 80% alcohol. The alcohol freed effective was agitated with petroleum ether; either from an acid solution, and again from an alkaline solution, and finally with chloroform from an alkaline solution. Operating in this manner, a trace of oily matter was obtained, soluble in alcohol with acid reaction; two reasons, one easily soluble in ether, the other soluble with difficulty but both soluble in alkaline solutions and by acids; an organic acid and a tannin affording a green coloration with ferric chloride.

92 Ibid, p. 79.
Similarly all indigenous medicines and drugs which were in use were sent to the chemical examiner’s laboratory for examination of its compounds, in order to find out the chemical reaction of the drugs on the diseases. This underlined that, indigenous drugs had to be necessarily verified of its properties through the clinical examination using the paradigms of western science. In an examination of the root of the plant *Pogostemon Parviflorus* used as a drug for snake bite, Hóoper writes that,

In the Ratnagiri district of western India, the root has long been in use amongst the natives as a secret remedy for the bite of the pharusa snake, and in February 1871, Mr. H. B. Boswell, the collector addressed the Civil Surgeon in the following terms:- I have the honour to send you a specimen of a root which I have reason to believe to be a cure for the bite of a pharusa snake, and I shall feel very obliged to you if can in any way ascertain its medicinal properties and its effects on any one so bitten. ‘It is said to stop all the after ill effects of this poisonous bite, which is more than liquor will I believe often do…”

The plant is forwarded in April 1871 to the chemical analyzer to government, who identified it as a species of Perilla, and expressed an opinion that it was highly improbable that a plant belonging to the labiatae would prove to be a specific for snake poisoning, and suggested that some trust worthy evidence of its value should be obtained before he undertook an analysis. In June of the same year, Dr. C. Joynt, the Civil Surgeon reported the following case:- A sepoy, aged 27 was admitted on the night of the 29th. Liquor ammonia was applied on the wound after incising; next morning there was hemorrhage from the wound, and also free hemorrhage from the gums and tongue, the blood escaping had a bright arterial hue. A scruple of root was ordered three times a day. The first dose decidedly relieved the vertigo, which he complained of, and the next day there was a marked diminution in the hemorrhage from the gums and tongue, which entirely ceased on the fourth day. No other medicine was given. Dr Joynt remarked: - the employment of the root in this case appears to have been singularly beneficial, and deserves further investigation.95

While the nature of the medicines used for treatment underwent change, similar was the case with the nature of its identification and uses. While drugs in the indigenous medical traditions was aimed to restore the alteration in the composition of one or more of the *tri-doshas*, or reduce the aggravation of particular *doshic* arrangement in the new context, medicines was used to eliminate bodily ailments using indigenous drugs. The basic attempt by the colonialists engaged in the process of observing and integrating indigenous medicine was therefore to understand bodily reactions to such drugs according to bio-medical categories. A later day attempt to

95 Ibid, p. 95.
understand the indigenous medicine and its uses had been primarily aimed at exploring the medicinal value of indigenous drugs, rather than a serious interest in its epistemic bases.

Western Science in Indigenous Medicine

The principle of universality and singularity of science was thus re-enacted in the indigenous medical tradition. This universalism in the name of science tended to see it as a unified and single tradition for the whole of the sub-continent, thereby evade and overlook other local medical beliefs and practices. This was by and large a result of the extension of the colonial debate on the larger society and culture of the subcontinent. European medical understandings in the 'late colonial era gained hegemony on the debates on indigenous medical tradition. The way in which the debates proceeded led to the constitution of a new class of social elite. These social elites claimed themselves to be the defendants of the indigenous medical tradition. The western political authority and Orientalists recognized that the indigenous social knowledge emerged from Sanskrit texts, of which the Brahmans were the possessors. The understanding however was that Indian knowledges had an antiquity, which took its shape and origin from classical texts of the Brahmans.

The British was of the opinion that the Brahmans had certain characteristics, 'the Brahmin was conservative, and his intelligence was superior to that of any other race'. All cultures, forms of practice and methods of cure were seen as an extension of this origin. As the search for indigenous medical knowledge and science was based on the larger political and ideological structures of colonial control, western medical practitioners concluded, that 'it is through the rich source of Sanskrit literature that we owe our knowledge of the origin and development of Indian medicine.'

97 Indian Medical Gazette, February 1928, p. 53.
This search for the better parts of Brahmanical knowledge led to the emergence of two basic trends. Firstly it created a section of the society, namely the social elite to lay claim on the indigenous knowledge as its sole proprietors, whereby local and traditional practices that did not fit into the broad paradigm of 'Ayurveda' were discarded as quacks and unscientific. Secondly, the process of social acceleration among the lower castes for a higher social position in the indigenous society demanded that they absorbed the medical tradition and practices of the newly constituted 'Ayurveda' of the higher castes, as a process of sanskritization which forced them to distance from of their local practices on healthcare. In the arena of indigenous medicine this manifested as a revival of the indigenous medicine in the form of Ayurveda. For the revivalists, Ayurveda was supposed to encompass the entire spectrum of medical knowledge of the indigenous society, leading to the marginalization and the gradual extinction of a vast number of local practices and forms of cure.

The attempt to cognize indigenous practices and cultures led to the constitution of an indigenous society, whereby the logics was based on textual literature. Practices of health and methods of cure of the traditional societies were not alien to this logic. Susrutha Samhita, Charaka Samhita and Ashtangahridaya were seen as the sources from which origins of indigenous medical knowledges were identified and organized. This tendency to universalize and glorify written text led to the emergence of a 'system' in indigenous medicine. Vata, Pitta and Kapha, the fundamental principles enunciated through the ancient medical texts were placed as binary to Anatomy, physiology and pathology.

The indigenous therapeutic practices, alike all indigenous knowledge forms, were seen through the prism of western scientific rationality and hence were never free form unfettered criticism. Even when attempts were made by a section of the western intellectuals and administrators to understand indigenous healthcare practices, they sought to provide a scientific framework to the indigenous medical tradition. These sharp differences between the various epistemic paradigms made to co-exist complicated the entire process of indigenous medical revivalism.
The erosion of colonial political sovereignty, resultant of the emerging nationalist upsurge in the period under study, underlined that western dominance was questioned by the emerging indigenous intelligentsia. A debate also ensued within the Indian intelligentsia on the various aspects of colonial truths in India. These debates further took momentum by the visualization as to how a modern Indian nation state ought to be structured in the absence of a colonial power. However, the principles of 'western scientific truth' were accompanied by a belief in the invincibility of western science, which sustained and survived, irrespective of the way in which the debates on the British colonial rule unfolded.

Thus in course of time in its interaction with the indigenous society the west was able to hegemonise the former using the basic paradigms of science and medicine. This explains the fact that in spite of a criticism to colonial rule and an alternative interpretation by the nationalist movement particularly during the Gandhian phase of the struggle, accompanied by a rejection of the principles of western modernity, the principles of western science continued to dominate the ideology and political practices of independent India.

The notion of the eastern society as racially and culturally inferior became an accepted norm in the west. The emerging notions of the eastern society as inferior demanded an improvement into the various aspects of the orient. This sparked off a debate between the various schools of thought prevalent in the west on the ways through which the indigenous society needed to be improved. Though there were marked differences in the nature of colonial intervention in India the centrality of science and the notion of scientific truth remained the accepted grid from which the discussions took shape.

The nature of colonial intervention in the indigenous society was not limited to a belief in the superiority of western science rather it was a result of the constant negotiation of the various ideological processes that the west had about indigenous
science and medicine, which functioned as the fundamental bases of colonial truth. This truth was neither static nor independent to a negotiation with indigenous practices. Over time there were shifts in the nature of the interaction between western understanding of medicine and the indigenous ones, which was interconnected with the broader political changes.

Western Science, Medicine and Truth

The colonial authorities were of the understanding that indigenous knowledge forms could be assaulted in a more thorough manner giving no scope for its truth claim, and it was for this reason that indigenous knowledge system was repeatedly verified and examined. They argued that the lack of scientific temper of the indigenous society was a result of its caste system and other associated cultural factors, which prevented the natural course of action that was necessary for the progress of science. 98

Debates in science were seen as means through which truth could be established. The weakness of Ayurveda, they argued was the result of the stagnation due to its non-adherence to the principles of naturalism. Indigenous medical tradition was criticised for its adherence to superstition and did not provide free space for scientific debates and discussions. The nature in which medicine was defined in the second half of the nineteenth century as rationalistic and universalistic was thus in opposition to the indigenous modes of thinking. 99 Culture here was believed to act as a hindrance to truth.

The western medical practitioners henceforth sought to explore the scientific validities of Ayurvedic drugs. Drugs were brought to the laboratory, examined under the microscope, its chemical properties analyzed and conclusions derived. As Deepak kumar points out microbes and microscopes constituted the new medical spectacle. 100 Indigenous medical knowledge was repeatedly analyzed and explored only to be

98 Indian Medical Gazette, November, 1931, pp. 84-5
100 Deepak Kumar (ed.), Disease and Medicine, p. xix.
concluded that it lacked scientific integrity. The argument that the act of observation had to be necessarily passive and uninfluenced by the act of observation gained ground.\textsuperscript{101}

Local and fragmented medical knowledge had to be transformed in the light of western medicine. As the movement for revitalization in indigenous medicine was formulated and articulated by the indigenous elite and was primarily aimed at the restoration of a Sanskrit based medicine, this led to the marginalization of the local healing practices against western medicine. This demanded the articulation of indigenous medicine in a language intelligible to the western medical audience.

Notwithstanding the manner in which the debates on the nature and status of indigenous medicine matured and reorganized over the period, there were certain fundamentals regarding the role and status of medicine on which certain amount of agreement was reached. The human body in the new context had to be necessarily based on the fundamentals of its anatomical structure and diseases had to be defined according to a physiology, and had to be located to specific organs based on and defined according to western medical epistemology.\textsuperscript{102} Thus as Foucault points out 'the human body (in the new situation) define(d) by natural right, the space of origin and of distribution of disease; a space whose lines, volumes, surfaces and routes are laid down, in accordance with a now familiar geometry, by the anatomical atlas.' But what was not accepted in the whole debate between two different streams of knowledge in India was that, 'this order of the solid, visible body is (was) only one way—in all likelihood neither the first, nor the most fundamental—in which one spatializes disease. There have been, and will be, other distribution of illness.'\textsuperscript{103}

However as Bayly demonstrates medicine had general, religiously sanctioned rules, but in practice, it was highly specific to individual, caste and region. This meant

\textsuperscript{102} Indian Medical Gazette, 1931, p. 42.
\textsuperscript{103} Michel Foucault, \textit{The Birth of the Clinic}. p. ii.
that certain diseases were specific to certain climes, and to the people who lived in them, because the vegetable and animal kingdom partook of the natural essences of particular spots.\textsuperscript{104} He further notes that, in practice the European collection of Indian knowledge systematized, generalized and abstracted, gradually discarding much of the popular lore and hierarchy of specialists.\textsuperscript{105} However, the systematization of diseases and medicines overlooking the relationship between the native population and their environment led to the marginalization and neglect of the indigenous practices. As truth claims of western science negotiated with indigenous medicine and its bodily notions based on an anatomical structure, this led to the emergence of Ayurveda as the sole medical tradition of the whole of the sub-continent.

By the first quarter of the twentieth century, there was a transformation in the perception of the colonial authorities towards the role and status of medicine. The critique on the varied facets of the British rule in India was gaining ground. At least among a section of the British authorities there was a realization that it is axiomatic that the political future of India would be complete home rule with or without dominion status.\textsuperscript{106}

There was also an increasing realization that western medicine could reach to only one-tenth of the total population.\textsuperscript{107} The attempts to promote indigenous medicine primarily arose from the realization that indigenous medicine remained and continued to remain the medicine of the masses. The western medicine was thus ready to negotiate with the indigenous medicine. But in reality these debates further accelerated the process of the formulation of Ayurveda as a discipline with systemic boundaries and practices.

Indigenous medical practices locally and distinctly spread across the subcontinent, its regional specificities and distinct styles and practices were discarded

\textsuperscript{104} C.A. Bayly, \textit{Empire and Information}. p. 274.
\textsuperscript{105} Ibid, p. 282.
\textsuperscript{106} Indian Medical Gazette, November, 1924, p. 565.
\textsuperscript{107} Ibid, p. 563.
and avoided. They were in effect trying to constitute and identify a pan-Indian medical tradition in the name of indigenous medicine. An elite group of Ayurvedic practitioners emerged who undertook the responsibility of speaking for the entire indigenous tradition. They were identified as the propagators of the indigenous medical tradition, which were newly constituted in the name of Ayurveda. This led to the negation of the vast majority of the local practitioners as quacks.

Even when western medical practitioners were identifying and supporting that Ayurveda is the medicine of the people and that the practice existed on the strong foundations of 'truth', and is closely related with and emerged from an interaction with and a by the product of the indigenous culture, proponents of western medicine sought to identify not what the Indian medicine contained, but rather what it lacked.

Colonial Initiatives in Indigenous Medicine

As the elites among the indigenous medical practitioners argued for state aid for their practice claiming it to be the medicine of the masses and that it's 'merits are greater than its demerits', the government appointed a commission of enquiry to explore the value of indigenous drugs. M. C Koman, who made a detailed enquiry into the therapeutic practices and the drugs in the presidency of Madras. He writes that as his aim was,

To get an insight into the nature of the work I [he] had to carry out, I [he] considered it necessary that I [he] should acquire a preliminary knowledge of the properties of some of the drugs and their compounds by acquainting myself [himself] with what was stated about them in some of the well known Ayurvedic works and by observing practically their method of preparation, application and administration. 108

Koman gives a summary of the way in which he undertook his enquiry in the presidency of Madras. He writes,

I have devoted my attention chiefly to studying the therapeutic action of the drugs and of compound preparations in general use, which I have been able to collect. To make a pharmacological research into these would require a well equipped will require at least two or three years before it is completed.\textsuperscript{109}

However his observation on the medicinal plant named Adalodam (Malayalam) is a reflection of the nature of colonial search and understanding of the indigenous plants, drugs and their uses. Primarily his efforts were to figure out the effect of the plants either as fresh juice or as a decoction of the root on various organs of the human body and on disease categories according to western medicine. Koman writes as follows,

\textit{Adalodam} in Malayalam, \textit{Adhatoda vasica} the fresh juice or decoction of the juice or a decoction of the root is generally administered as an expectorant and antispasmodic in asthma, chronic bronchitis and consumption. The decoction of the roots is currently given combined with other expectorants ...it is good in cases of pulmonary bronchitis but had not the slightest effect in pulmonary tuberculosis; on the other hand its use for a few days brought on an attack of haemoptysis in a case of pulmonary tuberculosis.\textsuperscript{110}

While the first two objectives of enquiry were to find out as to what was the composition of the drugs and the nature of its effect on the specific organs of the human body, as per western medical categories, the last enquiry of sorts was to find out the nature of intervention that these drugs had on the causes of the diseases. While in the earlier contexts medicines were used to neutralize the aggravation of the \textit{doshas}, in the new contexts the primary objective was to identify its action on the cells, the increase in the blood sugar and so on. Koman further states that,

Under proper diet all these drugs are able to reduce the output of sugar in the urine to a certain extent and no further; but as soon as the medicines are stopped, there is a return to the original condition. In one case there was a complete disappearance of sugar from the administration of sugar and talc.\textit{(Mathumegahmani pills)} the sugar reappeared immediately after stopping the pills. \textit{Vasanthakusumakararasa}, which is a compound of several metallic \textit{bhasmams} acts as a \textit{nervine} tonic and slowly reduces the quantity of sugar in the urine but its cost is prohibitive except to the rich. Even after its long continued use, I have not come across a single case in which the quantity of sugar has completely disappeared. Among the Ayurvedic drugs I would recommend \textit{Abbrak Bhasmam} (calcined 100 or 1000 times) and \textit{vasanthakusumakararasa} for the relief of diabetes.\textsuperscript{111}

\textsuperscript{109}Ibid, p. 2.  
\textsuperscript{110}Ibid, p. 10.  
\textsuperscript{111}Ibid, p. 9.
While indigenous medicinal plants and drugs were subjected to clinical enquiry, they became classified and distinguished in terms of their medicinal value. Clinical enquiry brought to fore the need to distinguish medicines based on their value arrived from clinical observation rather than traditional practice. While the harmful effects of medicine were highlighted, the 'criminalization' of native practitioners who were not organized, and hence not in a position to voice their concerns, emerged as quacks. As western criticism was directed against the larger indigenous society it was difficult to distinguish as to who constituted the quack. Underlining the primacy of clinical enquiry of medicines, The Indian Medical gazette writes as follows,

One now and then comes across patients suffering from the injurious results of the indiscriminate use of mercurial preparations in the form of oils and powders indiscreetly administered by quack vaidyans for the relief of syphilis, skin diseases, nervous diseases, chronic rheumatism etc. Mercury and several of its compounds are also largely used by the allopathic practitioners chiefly in the treatment of primary and secondary stages of syphilis, but their administration is always conducted in such a careful and methodological manner as to prevent the occurrence of any injurious effects.112

A comparison between indigenous drugs and those of the British Pharmacopoeia were undertaken to find out what drug is more effective for the human body. This process graded indigenous medicines in terms of their efficacy in treating diseases. However the process of comparison failed to make headway as they could not be understood through the basic paradigms of western medicine's logic. Koman writes that he examined about forty indigenous drugs,

which are said to possess the property of expelling worms from the alimentary tract.
The chief among them are :-

1. Butea Frontosa
2. Chempullahni
3. Kirmani
4. Cleome Viscosa
5. Vernonia anthelmintica
6. chenopodium ambriosides

I [he] have administered all these drugs and found them to be far inferior to santonin for the expulsion of round worms and to thymol for the expulsion of hookworms. Kirmani,

which consists of an admixture of the flower heads, stalks and leaves of *Artemisia maritime* was the most efficacious of the indigenous drugs in expelling round worms. ... The other drugs mentioned above have only feeble *anthelmintic* properties when administered alone.\(^{113}\)

The search was however to find out as to the use of indigenous drugs for diseases as per the understanding of western medicine. Koman enquiries demanded that the indigenous medical practitioners were to be categorized according to their ability to address disease as per western medical categories. He writes that,

Enquiries were made of the hakims and vaidyans to ascertain if they had specific or general treatment for the following diseases: cerebral apoplexy, plague hemiplegia, paraplegia, locomotor ataxy, progressive muscular atrophy, pseudohypertrophic paralysis, spastic paralysis, acute mania, different forms of Brights disease, cirrhosis of the liver and kala-azar. None of them were able to give me anything, which would prove useful in these diseases, but all of them were straightforward in stating that these diseases were beyond the scope of successful treatment by them.\(^{114}\)

The enquiries of Koman were criticized by the indigenous medical elite as being lopsided and privileging western medicine. In response the government in 1923 appointed a committee under Syed Usman an indigenous medical practitioner to suggest methods as to how indigenous medical practices could be reorganized and institutionalized. The Madras government in its order of 10th August 1921 stated that,

The object of the proposed enquiry is to afford the exponents of the Ayurvedic and Unani systems an opportunity to state their case fully in writing for scientific criticism and to justify state encouragement of these systems.\(^{115}\)

The government’s main inquiry was to figure out ‘what practical steps can be taken for the restoration and development of the Ayurvedic and Unani systems of treatment, with special attention to the questions of teaching of those systems with any necessary modifications, under proper supervision and control’.\(^{116}\) There was an attempt to create a new pedagogy for indigenous medicine, and to find out whether an integration of the western medicine with the indigenous one was possible.

\(^{113}\) Ibid., p. 9.

\(^{114}\) Ibid., p. 4.

\(^{115}\) Indian Medical Gazette, April, 1921, p.147.

\(^{116}\) Indian Medical Gazette, 1923, p. 10.
Langford argues that the purpose of teaching Ayurveda alongside European medicine had never been to develop Ayurveda per se; rather it was an attempt to allow Indians to observe for themselves the superiority of European medicine.117 The British interest in indigenous medicine was not only a method of demonstrating European dominance, as Langford argues instead the aim was to find out methods to address indigenous diseases using the therapeutic practices of the society. This was also a result of emergence of the realization which was strengthened by the early twentieth century that western forms of social intervention were unsuitable for India. The Minto-Morley Reforms was an expression of this realization.118 Echoing the current ambience Pardy Lukis, the medical surgeon of Calcutta similarly pointed out that,

The basis of all sanitary achievement in India must be a knowledge of the people and the conditions under which they live, their prejudices, their ways of life, their social customs, their habits, surroundings and financial means. ...The ardent spirits that may think that sanitary measures possible and effective in the west must be possible and effective in India will flap their wings in vain and set back the cause, which claims their laudable enthusiasm.119

Nonetheless State encouragement and restoration of the indigenous medical tradition necessitated that the practitioners of indigenous medicine had to state their case in a language and method intelligible to western medical audience. The situation so generated demanded that an interpretation of indigenous medicine outside the paradigm of western science was almost impossible. A set of questions for the practitioners of indigenous medicine was drafted by the committee for enquiry whereby, it was desired that 'answers to questions would enable them (the western practitioners) to get a clear idea of the teaching and practices of the system concerned.120 The primary among these was to find out whether 'Ayurveda be called a 'system of medicine' in the actual sense of the term? How can it be taught and pursued in the long run? How can modification be made possible? What are the aspects that are to be modified? What will be the terms of modification? Who will supervise and who

117 Ibid, p. 10.
120 Ibid, April, 1921, p. 147.
will control the whole exercise of regulation? What will be the basis on which the supervision and regulation of medicine be done and what will be the boundaries of the proposed exercise? Thus the manner in which indigenous medicine was conceived and the nature of the proposed methodological framework for official recognition continued to reverberate on all attempts at its reorganization.

The basic premise on which the enquiry emerged was aimed at deriving methods at finding means at the codification and institutionalization of the indigenous medical knowledge and practices for official recognition through textual representation. It was also realized that indigenous medicinal drugs had to be explored of the properties ingrained in the drugs. The authenticity of which in the final instance was validated by an adherence to Sanskrit texts of the past.

Thus when a serious initiative to re-constitute indigenous medicine was attempted by the Government it relied entirely on the indigenous medical practitioners, who subscribed to the dominant versions of the indigenous medicine to understand ways and means of its institutionalization. Dr A Lakshmipathy a leading Vaidya of Ayurveda and a member of the committee 'toured all over India, visiting important centres of the indigenous systems of medicine and conferring with the leading exponents of these systems and others interested in their promotion'. The Committee was of the conclusion that various streams of the indigenous medicine as represented through Ayurveda, Unani and Siddha represented similar traits. It noted that,

It is perhaps just as well that we state at the very outset that, except where there is a specific indication to the contrary, all our general observations and recommendations are meant to be equally applicable to all schools of Indian medicine generally such as the Ayurveda, the Siddha and the Unani, no matter from what source or sources the illustration are drawn in regard to any particular conclusion; and having regard to the view of our experts as to the common foundations of all these three schools, we have thought it best to consider them all as one triune whole, rather than as so meant isolated entities; for we have it on the higher authority of Janab Hakim Ajmal Khan of Delhi that Arabian medicine was founded on Ayurveda; and it is well known that the Siddha and

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121 Ibid, pp. 2-3.
the Ayurveda have very many things in common including the *Tridatu* physiology and *Tridosha*-Pathology.

Nevertheless even when there was a realization that western methods were unsuitable for Indian conditions and there was an urgent need for the restoration of the ancient system of medicine, western medical practitioners opposed the government initiatives to set up a committee for indigenous medical reorganization on the premise that it was not 'science' and was not open to criticism by the scientific community. The Indian Medical Gazette became the main platform through which practitioners of western medicine articulated their opposition towards indigenous medicine. Criticizing the proposed move for government enquiry, they argued that,

Some (indigenous medical practitioners) claim that their followers are even now fully self sufficient and that their followers are able by purely medical means to cure all curable diseases, including those which the western trained doctors classify as surgical ailments, and treat by surgical measures, this claim seems to us, however, to be a large order, more especially when we remember that Hindu medicine itself gave great prominence to surgery and that every student of Hindu medicine is enjoined to study *Susruta Samhita*—a treatise devoted to surgical ailments. The question cannot, however, be decided by mere argument. In the last resort it has got to be proved by verifiable testimony in hospitals or elsewhere, where there are facilities for recording authentic clinical observations.

However indigenous drugs along with its epistemic bases were often ridiculed. It was often argued that the more difficult a given drug is to obtain the more frequently it is prescribed. A dichotomy was constituted between science and tradition, between scientific chemists and alchemy. The validity of drugs, under colonialism, demanded that ‘medicine’ whether western or indigenous, had to undergo clinical trials in order to prove its credentials. The quality and the status of a drug had to be examined in the laboratory, observed under the microscope and its chemical composition defined. The superiority of the rational and moral gaze of the objects of the natural world was proclaimed by the proponents of western medicine as follows,

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124 Indian Medical Gazette, 1923, p. 128.
125 Ibid, October 1924, p. 509.
Modern scientific medicine is admittedly a barefaced robber and its votaries are constantly on the sharp look out for any improvements in connection with the diagnosis and treatment of disease; its representatives cannot usefully serve on the committees except on the distinct understanding that they are at liberty to publish to the world the results of their enquiries.\textsuperscript{126}

Making a polemic criticism on the methodological practices of indigenous medicine they argued that,

a system which teaches that the physician before he sees the patient, can gather valuable information as to the outcome of the disease, from observing the complexion, dress, gait and caste of the messenger sent to summon him, cannot be called scientific, even by the most sympathetic student.\textsuperscript{127}

This was even when the proponents of western medicine constantly declared their adherence to the neutrality to politics and science.\textsuperscript{128} They argued that 'the Indian medical gazette has always been and will continue to be absolutely non-political and non partisan confining its activities entirely to matters of professional interest'.\textsuperscript{129} However in its reality it functioned as a platform for the demonstration and articulation of the hegemony of western medicine. Writing on the functioning of medicine as culture, the Gazette notes that,

In our opinion medicine and politics form a very bad, if not, an incompatible prescription and the less that the young medical man has to do with politics, the better for his professional abilities. Independence and clarity of thought, judgment, sympathy, kindliness, all these are qualities which the practice of medicine should inculcate in the medical man as his experience widens and as his years mature; it is but impossible to cultivate them amid the welter of party politics.\textsuperscript{130}

The proponents of western medicine were convinced of the fact that 'all those who move in the same road (as ours) must eventually arrive at the same point'.\textsuperscript{131} This underlined that the new configuration according to the structure of rule and knowledge was the authority and application of science as universal reason. The British saw empirical science as universal knowledge, free from prejudice and passion and charged

\textsuperscript{126} Ibid, April 1922, p. 141.
\textsuperscript{127} Ibid, March, 1919, p. 90.
\textsuperscript{128} Ibid, 1932, p. 34.
\textsuperscript{129} Ibid, p. 563.
\textsuperscript{130} Ibid, p. 563.
\textsuperscript{131} Indian Medical Gazette. April 1922, p. 142.
with the mission to disenchant the world of the ‘superstitious’ natives, dissolving and secularizing their religious world views and rationalizing their society. Indigenous medicine and its mysticism were later discarded by the authorities as an indigenous conspiracy to keep the masses in the dark. Thus definite cultural contexts not only define the observations in a certain positive sense but they also make certain others impossible.

In the new context, science as a means of progress and rational enquiry was accompanied by the formulation of a new ethics and morality. For the western medical practitioners, ‘a system which teaches that, for his own sake, the physician should refuse to treat a patient whom he deems to be in dire peril of his life does not accord with ethics.’ The proposed new ethics, underlined the integral relationship between medicine and the new social sphere that was constituted under colonial modernity.

While it became difficult for the committee for the reorganization of indigenous medicine to demonstrate the validity of drugs based on clinical trials, they argued that the usefulness of the indigenous medicine can be gauged from the fact that statistical record of the patients treated by both the streams of medicine, in the same hospital. They argued that,

So far as the allocation of public funds are concerned, it does not really matter whether a case of illness is called tuberculosis or rheumatism, attributable to certain specific germs demonstrable by laboratory methods or to certain specific forms of doshic derangement ascertainable by clinical methods. It is difficult to see how we can give a definite answer in favour of one or other of the several schools or systems under reference, unless we have comparative statistical records of patients treated side by side by each of these systems either at our presidency hospitals or any other institutions where adequate arrangements can be made for the due maintenance of scientific records for purposes of comparative study.

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133 Ibid, p. 248.
134 Indian Medical Gazette, March, 1919, p. 90.
Though the proponents of western medicine admitted indigenous medicine to be the medicine of the rural masses of India, and are deeply rooted in the traditions of the people, its fundamental defects were identified to be the lack of a written and codified literature, absence of Pharmacology, and a crude anatomy and physiology. The indigenous medical practitioner under the new situation, either for state aid or for official recognition, had to prove the scientific character of their medical practice through clinical trials.

With all its indigenous adaptabilities, the invincibility of western science and its truth claims remained supreme. Even when certain interactions between different streams were made possible it was a shift from one of colonial contempt and disregard of indigenous medicine as one being outdated and illogical, which had to be discarded. However the committee for the reorganization of the indigenous medicine repeatedly expressed the hope that,

The 'best' aspects of western medicine and the indigenous system could be integrated, gradually little by little and line upon line, a true universal Indian system of medicine, with its own medical literature, its own indigenous pharmacopoeia, its own teachers moulded and adapted to the real needs of the country and its people, it must be based of course, upon present day 'western'—but really international-scientific medicine; no other alternative is possible; but it should incorporate all that is valuable in the indigenous systems.... Also it will be not isolated and segregated system of its own, but part of the international body of medicine of the future, adapted however to the local requirements.136

However the implications of western interventions in indigenous medicine continued unabated even after political independence. The long engagement with western science and its epistemic practices generated a certain amount of conviction and consensus on the nature and practices of indigenous medical revivalism in India. The Chopra Committee constituted by the government of India for exploring the possibilities of integration between the indigenous and western systems of medicine stressed the need for,

an urgent necessity for inaugurating research in Indian medicine so that it may, in an

Independent India carried with it the ideologies of western science and progress from its colonial past. There was a strong sense of conviction that integration between western and indigenous systems of medicine was possible and is practicable. It was guided by the belief that the two streams of medical practice can compliment each other by integrating the 'positive aspects of both systems of thought. Indigenous society, science and truth were seen as a continuation of the truth claims of history which was stagnant in its historical past. This belief in the integration of both these streams of practice was further asserted by the committee for the reorganization of medicine in 1949. It opined that,

The committee is of the opinion that the integration of Indian and western systems of medicine leading to synthesis is not only possible but also practicable and recommends that immediate steps should be taken in this direction. The first step will be integration of the courses of study by arranging curricula in such a way that whatever is weak in one system is supplemented and strengthened by the strong points of the other systems. The second step will be teaching of each subject by the same teacher, instead of by separate teachers as of now, giving the students a unified view of the Indian and western medicine. The final step will be in the field of research where experts of Indian and Western medicine will work side by side, checking and verifying the various hypothesis and theories, either rejecting or harmonizing them. If the theories are such as could neither be rejected nor reconciled, they are to be used as parallel hypothesis.138

Tropical Disease and the Search for Indigenous Drugs

It was by the late nineteenth century that the British realized the futility of depending completely on western medicine in the subcontinent. The western medicine, by and large, failed to cater to the needs of the rural population. It could address the needs of only less than one-tenth of the total population as people largely depended on the traditional Vaidyas.139 Moreover even in the cities and other urban areas there was the

constant outbreak of epidemics. The civil administration failed to contain them and this was a source of constant worry. They were not able to effectively understand the cause, nature and the extent of the diseases. The failure of the administration to effectively contain these diseases raised suspicion about the strength of western science and medicine.

The emerging concepts of the public sphere, civil society and the responsibilities of the state as internalized by the colonial authorities, conceived on the European model forced them to respond to the challenges posed by the frequent outbreaks of epidemics like plague, cholera, kala-azhar etc. They concluded that the peculiarities of the geographical conditions were the cause of disease and death. Elevation of the ground, the conditions of the soil, the humidity of the atmosphere, and above all the extent of the marshes and wet ground, determined the occurrence of the diseases.\textsuperscript{140} Even after the establishment of British rule and subsequent investments in western medicine, they failed to successfully eradicate or contain contagious or fatal diseases, forcing the authorities to invest largely in sanitary and preventive medicine. Diseases spread largely in military cantonments, pilgrim sites and urban centers.\textsuperscript{141} They were therefore forced to incorporate indigenous medicine into the medical structure of the state, in spite of the fact that its medicinal properties and methods of cure remained an enigma, a mystery, or at worst, in western discourse, a cultural practice anti-thesis to science and to the western medical audience.

The incorporation of the indigenous medicine into the sphere of public health policy of the state thus often arose as a necessity rather than as a conviction for the colonial authorities. Caught in a difficult situation, the British tried to promote the sanitary methods and hence concentrate on the means to prevent the diseases rather than its cure. The Portuguese had to face the brunt of epidemics and diseases in the subcontinent as early as the sixteenth century. The Portuguese chronicler Gaspar Correia narrated the extent of the cholera epidemic, which swept the city of Goa in


\textsuperscript{141} Ibid, p. 172.
1543.\textsuperscript{142} Garcia da Orta the earliest traveler in Portuguese Goa tried to address the tropical diseases based on the Galenic humoral system. They incised the body and examined the internal organs, only to find that it remained the same. However, unable to arrive at material reasons for the epidemic, they concluded that the cause of it was the result of the evil spirits that attacked human body for the unchristian ways of life.\textsuperscript{143}

Though throughout its history British Colonialism rested on a claim to a superiority of western medicine, it was forced to realize that the tropics had diseases that are are distinct from the west and hence should be addressed differently. Even when Lord William Bentinck, Governor of Madras, in approving official expenditure on vaccination in 1805, declared himself, 'happy in the reflection that no expense was ever made for objects of greater individual happiness or of public advantage'.\textsuperscript{144} by the late nineteenth century the British became highly skeptical of the use of western medicine for indigenous diseases.

There was a realization that western medicine was ineffective in the treatment of the deadly and contagious diseases of the subcontinent. This led to the emergence of a new discipline under the name of tropical diseases and medicine. An attempt was made by the authorities to explore the viability of indigenous medicine as a possible alternative. The inability of western medicine to contain various diseases in the subcontinent was an assault on the principles of western medicine and science.

Prakash notes that in the colonial context the universal claims of science always had to be represented, imposed and translated. He argues that this was not because western culture was difficult to produce, but because it was dislocated by it's functioning as a form of alien power and thus was forced to adopt other guises and languages. Science had to be tropicalized, brought down to a level of the natives and

\textsuperscript{143} Ibid, p. 3.
\textsuperscript{144} David Arnold, \textit{Colonizing the Body}, p. 38.
even forced upon them, so the argument went, if Britain was to do its work in India. However, the fact of the matter was that it was not just a tropical representation of western medicine, rather, the colonial need of governance necessitated that western medicine had to be replaced by indigenous drugs in their attempts to address the health concerns of the people.

In course of time the pedagogy of western medicine in India came under sharp criticism. There was a realization among the western medical practitioners and the colonial authorities that disease varies according to climatic zones, ecology and local and regional specificities. It was this conviction in the need for the indigenous adaptability of western medicine that led to the emergence of an internal criticism of the western medical pedagogy. This underlined the need to integrate the two streams of practice, they argued that,

The result of such a syllabus is to turn out qualified medical men, who are good on the clinical side...but strangely ignorant on the commonest of the many tropical diseases which they will encounter when they enter upon practice...the average practitioner of the western system is as a rule a far better man than his Ayurveda brother of average merit; but each has something to learn that the other can teach.146

A new pedagogy for western medical doctors in Bengal was proposed which argued for an integration of tropical diseases and western medical practices at the School of Tropical Medicine and Hygiene before taking up medical work at the moffusil towns of Bengal. The terms and conditions of the proposed activities of the new school exposed the vulnerability of western science in terms of its strength and cohesiveness. The government and the authorities of western medicine in India admitted the prevalence of a large number of diseases that western medicine failed to address and which took a heavy toll of life every year.

Instructors who had undergone a course of training at the tropical school were to train the doctors in the moffusil towns so that they would have sufficient knowledge

145 Gyan Prakash, Another Reason, p. 5.
146 Indian Medical Gazette November, 1924, p. 564.
of the diseases of the remote parts of the province. People were to be trained at the School for the special purpose of instructing lay teachers in the methods of conveying to school children a knowledge of the essential facts connected with health and disease. They hoped that, by a simple organization it would be easy to arrange that every school teacher in Bengal would have an ‘intelligent grasp of the simple laws of health’ and should convey this knowledge to the pupils. 147

The shift from disease and cure to one of preventive medicine emerged as a new discipline. This shift was evident in the Report of the Royal Commission on Sanitation published in 1864. According to the Surgeon-General, this report ‘may be taken as the boundary line between the past and the present of medical work in India’. 148 The establishment of the School of Tropical medicine was primarily aimed as a means through which locally spread diseases were brought to the knowledge of the western physicians and an awareness of these was generated among them. Knowledge on the localized and isolated diseases hitherto alien to western medicine was to be compiled as a precautionary measure against unknown diseases.

The sanitary officer had to undertake the primary responsibility of organizing an institutional framework to contain diseases. Research on the viruses and explorations into the manufacture of antivene and of the curative sera were entrusted as his primary responsibilities. 149 The sanitary measures failed to produce the desired results. It failed, according to the authorities, due to a non-enlightened public around the cantonment and not due to the western sanitary notions, but on a general unawareness on the part of the populace. 150

Indigenous drugs were accepted but not their philosophies. The threat of the epidemics and the causalities among the Europeans forced the authorities to realize that indigenous medicines could be used effectively in the fight against tropical diseases.

148 Indian Medical Gazette January, 1901, p. 22.
149 Ibid, October 1904, p. 381.
150 Ibid, p. 72.
They believed that ‘India can and must do much more in growing and manufacturing vegetable drugs, for common tropical diseases’.  

This understanding led to the creation and establishment of a Royal botanical gardens in various parts of the country. Cinchona plantations were established extensively for the extraction of Quinine, Chenopodium, Anthelminticum (oil used in hook worm disease), Taraktogenus Kurzii (oil used in the treatment of leprosy) Strychnus Nuxvomica (yields strychnine) etc. were cultivated extensively.

The Medical Gazette voiced the concerns of the spread of diseases in Bengal stating that, ‘Beriberi and Infantile Cirrhosis of the liver [remained as] are two problems of the greatest importance to Calcutta and as yet there are no machinery attempting their solution.’

The important function of the School of Tropical Medicine and Hygiene was to explore the methods to solve the fatal diseases with the aid of indigenous medicine. There was a marked shift from the drug-diagnosis-disease combination based entirely on western model to alternative forms of diagnosis, preparation of drugs and methods of cure. There was a pronounced change from the ability of the Western drugs to act against all disease, to one of preventive health, marked by a stress on hygiene. This became the official policy of the government. A whole new discipline, literature and policies replaced the descriptions of western medicine. These were aimed at altering the relationship between the indigenous people and their environment, the daily practices of the native life which came to be described in the broad framework of what came to be called as Hygiene. A long list of Do’s and Don’ts of daily practices became the single most agenda of the officials of the health department. A new era emerged with official policies solely aimed at mastering and bringing to control the environment of the subcontinent.

151 Ibid, p. 106.
152 Ibid, p. 106.
Though, seemingly a reflection of western medicine re-enacted on the colonial stage, in effect the emergence of the discipline of tropical medicine, and the establishment of the school of Tropical medicine in Calcutta exposed the claims of western superiority in terms of its scientific paradigms and epistemic bases in medicine. The establishment of the school was thus a desperate attempt by the colonial authorities to conceptualize and find means to overcome the assault of the deadly disease that took a heavy toll of the population. In essence, tropical medicine signified a compromise on the claims of the superiority of European science and medicine.

The physicians trained in western medicine, on Anatomy, Physiology, Pathology and a whole corpus of western medical knowledge were to guard against the diseases of the tropics. This was a result of the confusion caused by the frequent outbreak of the contagious diseases, and the fear of being overpowered by it. Though the introduction of the School of Tropical Medicine was publicized 'as an enduring monument in the contribution, which the science of the west is making towards the well being of the people of the east'\textsuperscript{154}, the context in which the framing of a 'medical policy for the tropics' signified the inability of western medicine to effectively counter the diseases of the indigenous societies. Vaccination emerged in British India as the panacea to all ills. The government believed that 'of all the sanitary benefits conferred by the English to India it is certain that nothing has been of greater benefit than the practice of vaccination'.\textsuperscript{155} Vaccination ought to replace the traditional religious beliefs with a new god. It became the new ritual for the practice of science; it became the new doctrine of immunology.\textsuperscript{156}

Nevertheless the aim behind the establishment of the school was to bring 'to an end an anomaly which has only to be stated, to be appreciated, namely, that hitherto medical men resident in India, the very home of tropical diseases, have had to repay to Liverpool and Greenwich to obtain instruction in their treatment'.\textsuperscript{157} It aimed at

\textsuperscript{154} Indian Medical Gazette, March 1922, p. 108.
\textsuperscript{155} Ibid. January 1901, p. 22.
\textsuperscript{156} Ibid. p. 23.
\textsuperscript{157} Ibid. p. 108.
bringing to rest the large amount of confusion and vagueness that existed between the diseases, and the way in which diseases had to be identified and taught according to western science, as it actually existed in India. Leonard Rodgers who is credited with the foundation of the school explored alternative means of diagnosis and cure distinct from the one as interpreted by western medicine.

Conclusion

The crisis of the varied facets of science however, did not deter the western authorities from the use of the term science. Science rather continued as a synonym for 'the truth'. The crises that the medical authorities had to face were not seen as the crisis of western science per se, rather these were seen as the result of the forces that acted as an antithesis to science. Even when indigenous drugs were explored as an alternative to western medicine in the treatment of indigenous diseases, the notion of science as truth in waiting continued. Indigenous medicine absorbed the language of 'science into its literature and fold. The overall understanding was that indigenous drugs could be scientifically manufactured, cultivated and marketed. Thus science became variedly used in different contexts as western medicine opened its dialogue with indigenous medicine in a more popular level.

The interest in the flora and fauna of the subcontinent to one of outright contempt of the indigenous medicine and culture to the ultimate dominance of science led to the glorification of an ancient medical tradition which ultimately ended up in the brand Indian name of Ayurveda in its modern form. The western practitioners accepted that indigenous medicine has much of 'empirical knowledge, which served as a temporary purpose and a plentiful collection of remedial agents, especially of medicinal plants derived from the rich flora of the land.¹⁵⁸ And even it had a surgery of its own even by western standards. A historiography of medicine was constituted, which glorified ancient practice as a pure state of affairs, which was accompanied by subsequent failure and loss a debate which was actively taken forward by the emerging

¹⁵⁸ Ibid. p.53
nationalist consciousness in its attempts to regain the national self. The mainstreaming of the indigenous medicine led to the mainstreaming of the indigenous medicine in the name of Ayurveda. It was an attempt to regain the 'self', and 'truth' that was lost to the west in the name of science. The western response to the indigenous medical tradition was to visualize the indigenous medical tradition, and to constitute a history through the prism of western science and medicine.