

**‘an unseen, awful visitant’: The making of Burdwan fever**

“It is curious to note how mankind is led by watchwords. Be it religion, politics, or popular science, the commanding officer of the hour issues the countersign, and the sect, party, or society catches it up, and it is repeated, and echoed and re-echoed until the sound becomes faint, or the voice is deadened by the higher tone of new utterance. It is a strange phase of human life, this system of watchwords....”

-‘Editorial: Draining Bengal’, *Indian Medical Gazette*, September 1872, pg. 209.

In many ways, Assam fever, Malta fever, Nagpur fever, Hong Kong fever, Amritsar fever, Roman fever, Peshawar fever, Niger fever, Mauritius fever, Bulam fever and Burdwan fever constituted different episodes within a shared history of medical correspondence. In different moments of the nineteenth-century, medical bureaucrats recognised these as epidemics attributable predominantly to ‘malaria’. These represented a particular pattern of official reporting. Such reports named certain maladies by associating place-names with the term ‘fever’. These network of correspondences circulated enduring impressions about land, landscape and people.

This essay revisits the history of Burdwan fever. In contemporary sources in the 1870s, as well as subsequent histories, Burdwan fever and ‘the malarial epidemic in Bengal’ figured interchangeably as almost identical categories. I argue that Burdwan fever and the ‘malarial epidemic’ referred to historically produced labels: shorthand expressions that provided convenient points of reference to a dispersed set of officials. In the numerous acts of medical reporting in the second half of the nineteenth-century in Bengal, ‘a malarial epidemic’ presented itself as a flexible medical metaphor. Medical professionals frequently invoked the term ‘malaria’ to explain myriad varieties of physical unease in a body. This article attempts to examine how ‘malarial epidemics’ were understood to travel across time and space.

Prevalent studies have tended to conceive the ‘malarial epidemic’ as an event that constituted the simultaneous replication of a single homogenous, monolithic malady in a million bodies.

An anachronistic understanding of malaria inspires such histories. Committed to the task of writing credible ‘social histories of a malarial epidemic’, previous authors have reduced malaria itself to an almost definite, given, inflexible category<sup>1</sup>. This essay refrains from probing into *why* there was a malarial epidemic in Bengal in the nineteenth century. Nor is it a study of the inadequate responses of the colonial government or the reactions of the local landed proprietors. Instead, this essay asks *how* a series of dispersed and dissimilar debilities could be represented as a single, continuous epidemic of malaria in Bengal and beyond over most of the nineteenth century<sup>2</sup>.

### ‘Malarial subjects’<sup>3</sup>

Contemporary sources often represented the epidemic as a spectacular disruption from the prevailing ways of life. It provided an occasion of dramatic lamentation for a world that had been lost:

“its ravages have not yet been repaired, the ruined villages have not been yet rebuilt, jungle still flourishes where populous hamlets once stood, and many of those who fled before the fever have not returned...”<sup>4</sup> ‘Rev Neale’s school numbering 130 boys is now deserted...’<sup>5</sup> ‘...the rich and the poor of all ages and castes have suffered alike; consequently, dwelling houses of all descriptions in equal proportions are to be seen in various stages of decay and ruin... many large ‘barees’ [houses] in which there were formerly thirty and forty residents, have now been left with perhaps one solitary occupant; whole mohullahs and streets have been deserted, and large villages which formerly told their residents by thousands can now almost number them by hundreds...’<sup>6</sup>

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<sup>1</sup> For instance see, Arabinda Samanta, *Malarial fever in Colonial Bengal, 1820-1939, Social History of an Epidemic*, Kolkata 2002.

<sup>2</sup> For a study on the different meanings associated with ‘malaria’ in the nineteenth-century in British India and beyond see, Rohan Deb Roy, ‘Mal-areas of health: Dispersed histories of a diagnostic category’, *Economic and Political Weekly*, Vol. XLII, No. 2, January 13, 2007.

<sup>3</sup> One finds this expression in Sir Joseph Fayrer, First Croonian lecture on Climate and the fevers of India, *Lancet*, March 25, 1882, 423-426.

<sup>4</sup> Leonard Rogers, The lower Bengal (Burdwan) epidemic fever reviewed and compared with the present Assam epidemic malarial fever (Kala-Azar), *Indian Medical Gazette* 32, November 1897, pg. 401.

<sup>5</sup> Origin or Cause of the fever. General Department; Medical Branch; File 6; Prog-34-36; July 1873, (West Bengal State Archives, hereafter WBSA.)

<sup>6</sup> Home department, Public Branch, 7 May 1870, 65-71 A. (National Archives of India. Hereafter NAI.)

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Ironically, the language of reporting different aspects of the epidemic also revealed a vocabulary that claimed to describe daily bodily niggles. These reports were frequently couched in a language endorsed by institutional science. Hence, they appeared as convincing, respectable and legitimate. In these reports, such expressions of physical unease figured as necessary preconditions, symptoms, sequels or simulations of a collectively experienced malady. Dr Yadunath Mukhopadhyaya, for instance, narrated detailed cases of individual patients diagnosed to suffer from ‘malaria’ in successive Bengali medical texts published through the 1870s<sup>7</sup>. He suggested that malaria did not necessarily express itself as fluctuating fevers readable in the thermometric scale, or by assuming a contagious character inflicting innumerable mortalities. Instead, the impact of ‘malaria’ on the body, Dr Yadunath Mukhopadhyaya believed, could make one feel ‘not sick, but out of sorts’. Malaria necessarily did not cause illness but ‘a slight deviation from health’<sup>8</sup>.

Malaria, therefore, figured as an onerous agent that could be attributed to explain a wide variety of maladies. Such maladies ranged from frequent expressions of diarrhoea, nausea, headache, infection on the eyeball, instances of abscess on the female breast or in the ear, secretion of puss, or a general unlocatable malaise<sup>9</sup>. Malaria equally figured as a cause behind

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<sup>7</sup> Yadunath Mukhopadhyay was a medical practitioner with the Subordinate Medical Service. Between 1872-1880 he published at least around eight medical manuals in Bangla. Yadunath Mukhopadhyay and his works await more intense and detailed attention from historians. Some of his manuals include: *Visuchika Roger Chikitsa (Treatment of Asiatic Cholera) 1872, Quinine Prayog pranali (A Treatise on the use of Quinine for treating malarial fevers) 1873, Parimitisutra (The elements of mensuration) 1876, Chikitsakalpadruma (The Cyclopaedia of the Practice of medicine) 1877-78, Sarirpalana (Preservation of health) 1878, Sarala Jvara Chikitsa (A work on Bengal fevers and their treatment) 1880, Chikitsa Darpana (Practice of medicine for Practitioners) 1880, Quinine 1893).*

<sup>8</sup> Dr Yadunath Mukhopadhyay, *Saral Jvara chitiksa, prothom bhag (Curing fevers, Part I)* Calcutta, 1878. It would be misleading to suggest that such trends were unique to Bengal or to the Burdwan fever. Mukhopadhyay’s understandings were shared and articulated across contexts. See, the letter written by Dr Arthur Christie on Latent malarial disease to the editor of *Medical Times and Gazette London*, May 11, 1872, Pg. 550; Papers by Dr Ewart in Medical Charge Mewar Bheel Corps on the prophylactic powers of Quinine, Home department, Medical Board, 21<sup>st</sup> October 14, 1858 (NAI); Dr Moore’s proposed inquiry into malaria, Home Department, Medical Branch, January 1877, File number 47-48 B (NAI); See the definition of the categories masked and pernicious malaria and malarial cachexia in Sir Joseph Fayrer, Second Croonian lecture on Climate and the fevers of India, *Lancet*, March 25 1882, 426 and 467-470.

<sup>9</sup> Dr Yadunath Mukhopadhyay, *Saral Jvara chitiksa, prothom bhag (Curing fevers, Part I)* Calcutta, 1878. Yadunath Mukhopadhyaya, *Quinine*, Calcutta. 1893.

cases of cardio-vascular arrests that were believed to risk one's life. The series of patient-cases that appeared in Mukhopadhyaya's narrative involved his experiences of attending to toddler girls and pregnant women. It also included his individual experience of suffering from what he thought to be 'malaria'. Mukhopadhyaya identified experiences of unease such as general lassitude, repeated acts of yawning, desire to stretch oneself, pain on the ankle, wind formation, intense regular sluggishness, irritation and pain around the ear, as inevitable preconditions in a body that should anticipate another attack of malarial fever<sup>10</sup>. In this way, the epidemic offered another occasion when medical practitioners could itemise these sensations as objects of medical knowledge. As items of medical knowledge, these appeared as predictable, manageable, curable categories. This can be corroborated from Dr Gopal Chander Roy's extensively cited account on the 'epidemic'. Roy related the frequent drying up of the tongue, accumulation of brown sores on the teeth and lips, bloated face, oedematous limbs, oral ulcers, inflammation of the mucous structure of the teeth, loose teeth, swollen-bleeding gums as probable expressions of 'malaria' in the body<sup>11</sup>.

Who then could be defined as 'malarial subjects' in Bengal in the 1870s? G C Roy suggested that unexceptional attacks of 'malaria' seldom deterred their victims from eating, drinking and bathing as usual<sup>12</sup>. The unhappy effects of 'malaria' became 'a natural phenomenon, a part and parcel of the necessary constituents of their body'. Most of them would remain without fever for months or years and yet the slightest cause could upset the balance of health. Thus malarial subjects, individuals who had been described as subsumed into 'the vortex of disaster' could be someone suffering from pigmentation of the skin, bleeding from the nose or

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<sup>10</sup> Ibid. pp. 39, 49, 50, 67.

<sup>11</sup> Gopaul Chandra Roy, *The causes, symptoms and treatment of Burdwan fever. Or the epidemic fever of lower Bengal*, Calcutta 1876, pp 84 and 98-100. G C Roy's work was widely circulated and reviewed. For a brief overview of the ways it was received in the *Lancet*, *Medical Times and Gazette*, *Medical Press and Circular* and *The Doctor* see, Application from Dr Roy, Civil Surgeon of Beerbhoom, for the patronage of the Secretary of State for his work on Burdwan Fever published in 1876, Home department, Medical Branch, File 1-5 A. (NAI).

<sup>12</sup> Gopaul Chandra Roy, *The causes, symptoms and treatment of Burdwan fever. Or the epidemic fever of lower Bengal*, Calcutta 1876, pg. 75.

from the rectum, mental inaptitude, rheumatism, night-blindness, impotency, pregnant women weakened by the embolism of the heart, women suffering from menstrual flux<sup>13</sup>.

### 'Cinchona disease'

Surgeon Major Albert M. Vercherie left a tour diary narrating his visits to inspect cases reported as 'malarial' in different parts of the Burdwan town in September 1873. He referred to the case of a dhobi's daughter whom he confronted in the bazaar region. She happened to be a patient of one Dina Bondhu Dutt, a local physician. She was recorded in the official registers as a case of 'malaria'. In the fourteen days Vercherie kept track of her it was found that she was gradually diagnosed with the following maladies successively: typhus, enteric fever, cholera, relapsing fever. "I heard from Dr French that the case became complicated by pleuro-pneumonia about thirteen or fourteen day of disease"<sup>14</sup>. Thus, detailed individual case histories reveal that those who were labelled as suffering from 'malaria' could be diagnosed with different diseases in different phases in the same continuous course of illness. The above example also specifies some of the other jargons besides 'malaria' that could be advanced to explain a similar set of symptoms.

How could such confusion, presented by an over-abundance of closely simulating diagnostic tropes, be resolved? Yadunath Mukhopadhyay narrated a similar experience of attending to a little girl eight to ten years of age. She was initially diagnosed to suffer from cholera at the 'collapse stage'. When the relevant fever mixtures and stimulants failed, and the physician was about to give up the 'case', he decided to gamble with quinine. Subsequently, the girl gradually recovered. Mukhopadhyay narrated this experience to suggest how the malarial identity of a particular form of physical unease could be determined from how a body reacted to quinine<sup>15</sup>. A careful study of the individual case histories recorded during the 'epidemic'

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<sup>13</sup> Ibid, pp.84 and 94-105.

<sup>14</sup> Albert M. Vercherie, Extracts from a diary kept during a visit to Burdwan in September 1873, *Indian Medical Gazette November 1, 1873*, pp. 287-289.

<sup>15</sup> Dr Yadunath Mukhopadhyay, *Saral Jvara chitiksa, prothom bhag (Curing fevers, Part I)* Calcutta., 1878, pp. 103-106.

reveals that such examples could be multiplied. The figure of quinine was frequently invoked as a diagnostic tool. Cases labelled as ‘malarial’ well into the third quarter of the nineteenth century owed their identities not to laboratory tests, but to the experience and expertise of individual physicians. When both failed, such quick-fix pharmacological tests determined the fate of the patient.

In many more ways, the ‘malarial epidemic’ owed itself to quinine. Decades before dispersed expressions of little debilities in various parts of Bengal began to be written about as diverse articulations of single, continuous malarial epidemic, quinine had already been convincingly advertised as the quintessential remedy of every form of malarial disease. Such advertisements were vigorously reiterated in the official registers in various moments in the 1850s<sup>16</sup>. Quinine was confidently acknowledged not merely as a febrifuge, but also as a prophylactic. This appeared firmly entrenched in the military files of the government. In certain regiments in British India consuming certain doses of quinine formed a part of the mandatory breakfast<sup>17</sup>. Travelling officials like Lieutenant G S Hills who doubted the labelling of the epidemic as ‘malarial’ were nonetheless found to take daily preventive doses of quinine.

“The more I saw of the District the less competent did I feel to determine upon any one particular cause for this dreadful scourge... I noticed in villages recently attacked, that a hot steamy atmosphere seemed to pervade the village, the nauseating and depressing effects of which were almost intolerable. I also experienced a cold chilly feeling creep over me in spite of the hot close atmosphere in the village....

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<sup>16</sup> For instance, A Bryson, Navy medical report number xv on the prophylactic influence of Quinine. *Medical Times and Gazette*, London, 1854, viii; The Practice of giving Quinine or Quinine wine on distant expeditions on the west coast of Africa, *Statistical Report*, Health Navy 1857, London. 1859, 82-85; Blair D, On the employment of quinine on West India fevers, *Lancet*, London, 1848, ii, 344; S Rogers, The protective or prophylactic preventive, and some points in the curative uses of Quinine, applicable to miasmatic localities and in miasmatic diseases. *Transaction of the Medical Society*, New York, Albany, 1862, 181-202.

<sup>17</sup> Papers by Dr Ewart in Medical Charge Mewar Bheel Corps on the prophylactic powers of Quinine, Home department, Medical Board, 21 October 14, 28 October 52, 2 December 58, 1858 (NAI).

This sensation in my case was never followed by any pernicious effects, which may be attributed to taking quinine daily...’’<sup>18</sup>

As late as 1874, a considerable range of colonial officials sounded unsure about the malarial character of the malady. For instance, Dr Albert Vercherie, a member of the Indian Medical Service, was convinced that it was typhus<sup>19</sup>. Lieutenant Governor Sir Richard Temple, writing a decade after Lieutenant G S Hills, seemed equally hesitant to attribute the series of maladies in contemporary Bengal to ‘any particular cause’.<sup>20</sup>

However, there seemed to circulate a consensus that Quinine could be its unquestionable remedy. Years before doubts involving the ‘malarial’ character of the epidemic could be conclusively resolved Quinine had made its way into the interiors of Bengal<sup>21</sup>. The indiscriminate use of quinine had been condemned even in certain governmental correspondences<sup>22</sup>. Through most of the 1860s and the early years of the 1870s Governmental files in Bengal revealed organised efforts to procure additional quinine from Madras and Bombay Presidencies to combat the ‘outbreak’.<sup>23</sup> They also reveal obsessive efforts in indenting quinine from England<sup>24</sup>, while tracking the details of its journey from England<sup>25</sup>, in frequently measuring its stock in the rapidly exhausting medical stores<sup>26</sup>, in requesting the

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<sup>18</sup> From Lieutenant G S Hills, Executive Engineer, Shillong Division, on Special Duty, to H L Dampier, Esq, Commissioner of the Nuddea Division, dated 31<sup>st</sup> December 1864. Home department, Public branch, 7 March 1868, File no. 140-143 A. (NAI).

<sup>19</sup> Albert M. Vercherie, Extracts from a diary kept during a visit to Burdwan in September 1873, *Indian Medical Gazette November 1*, 1873. and January 1, 1874, pg. 8-12.

<sup>20</sup> Richard Temple, The Causes of, and remedies for the Burdwan Fever, Minute by the Lieutenant Governor of Bengal, dated 25<sup>th</sup> August 1875. Home department, Medical branch, File 53-55A, November 1875 (NAI).

<sup>21</sup> Result of the experiment for the sale of European medicines in the Mufussil, Home department, Public branch, April 1872, 508 A (NAI)

<sup>22</sup> Free use of quinine in the Burdwan district, General department, Medical branch, May 1872, 92-93 B. (NAI)

<sup>23</sup> Supply of quinine for the relief of the fever stricken localities in the Burdwan district, Home department, Public branch, Septemebr 1872, 441-444A. (NAI)

<sup>24</sup> Supply of quinine from England for Burdwan fever, Home department, Public branch, December 1872, 344-353 A. (NAI)

<sup>25</sup> Supply of quinine for the relief of the fever stricken localities in the Burdwan district, Home department, Public branch, Septemebr 1872, 441-444A. (NAI)

<sup>26</sup> Immediate demand for Quinine for Burdwan fever, Home department, Public branch, August 1872, 574-577 A. (NAI)

Military department to spare some Quinine in favour of the Civil department<sup>27</sup>. It is very difficult not to notice the enormous correspondences between officials placed in different levels: the subdivision, districts, divisions supervising and instructing the distribution of quinine in the village through the agency of the panchayats, in the circles through the dispensaries. Such correspondences suggest how the units of revenue extraction began to be projected as units of affording relief.

Since 1850s, the careers of malarial diseases and quinine were repeatedly written about as inseparable parts of a single, shared history. Widely circulating publications in medical journals<sup>28</sup>, stories narrating past glories of the Jesuit Bark<sup>29</sup>, reports on adventures into the interiors of the Peruvian forests<sup>30</sup>, the foundational programmatic statements from the early managers of Cinchona plantations in India<sup>31</sup> informed official understandings. This resulted in impressions that quinine and malarial diseases were invariably associated. The presence of one seemed to imply the presence of another. At a time when official characterisation of dispersed debilities and deaths in Bengal suffered from imprecision, governmental alacrity in distributing quinine contributed to the reinforcement of the malarial identity of the epidemic.

An understanding that the introduction of the drug in Bengal immediately preceded the outbreak of the epidemic was reflected in certain publications in late nineteenth century. In an editorial of the Homoeopathic journal entitled *The Calcutta Journal of Medicine* the epidemic

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<sup>27</sup> Supply of quinine from England for Burdwan fever, Home department, Public branch, December 1872, 344-353 A. (NAI)

<sup>28</sup> A Bryson, Navy medical report number xv on the prophylactic influence of Quinine. *Medical Times and Gazette*, London, 1854, viii; The Practice of giving Quinine or Quinine wine on distant expeditions on the west coast of Africa, *Statistical Report*, Health Navy 1857, London. 1859, 82-85; Blair D, On the employment of quinine on West India fevers, *Lancet*, London, 1848, ii, 344; S Rogers, The protective or prophylactic preventive, and some points in the curative uses of Quinine, applicable to miasmatic localities and in miasmatic diseases. *Transaction of the Medical Society*, New York, Albany, 1862, 181-202.

<sup>29</sup> For instance, C R Markham, *A memoir of the Lady Ana de Osorio, countess of Cinchon and vice Queen of Peru (a.d 1629-39) with a plea for the correct spelling of the Cinchona genus*. London 1874.

<sup>30</sup> Clements R Markham, *Travels in Peru and India while superintending the collection of Chinchona plants and seeds in South America and their introduction to India*, London 1862.

<sup>31</sup> For instance, the extensive range of official correspondences (Home department, medical branch) involving the introduction of Cinchona plantations in India since the early 1860s preserved in the NAI.

figured as a consequence of the introduction of quinine in Bengal. The editorial characterised the epidemic as a *Cinchona disease* that resulted from the side effects of consuming regular doses of quinine to stave off intermittent fever. It argued while quinine relieved the body from milder and temporary forms of intermittent fever, it plagued the body with a worse and enduring form of disease: *Cinchona Disease*.<sup>32</sup> Such impressions survived well into the last decade of the nineteenth-century. Fuelled by revivalist flames the Bengali journal *Chikitsa Sammilani* blasted the government policy of distributing Quinine at cheap rates from the post offices for causing general sickness and fever in rural Bengal since 1893.<sup>33</sup>

**‘...opportunity of the epidemic...’**

The careers of malarial epidemic and quinine in nineteenth-century Bengal were caught in a symbiotic relation. It has been indicated how the figure of Quinine had been invoked to add precision to the malarial identity of the epidemic. The epidemic proved to be an occasion when the usefulness of quinine could be tested once again. It was a moment when contemporary records within and beyond the fold of state medicine had begun doubting its potentials as either a febrifuge or a prophylactic.<sup>34</sup>

The distribution of Quinine, it was alleged, fell into the hands of ‘unqualified imposters’ and ‘mischievous quacks’ who frequently tampered with its purity producing adulterated versions. Quinine gave them access to quick, easy money despite its lukewarm curative functions. The In a letter written in June 1869, the Sanitary Commissioner of Bengal himself expressed

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<sup>32</sup> *Calcutta journal of medicine*, Volume v-vi, June 1873, pg, 198.

<sup>33</sup> Quinine i malaria, (Quinine is malaria), *Chikitsa Sammilani*, 9<sup>th</sup> volume, 9<sup>th</sup> year, first issue, 1893. Such trends of attributing malarial fever to the intake of Quinine have been witnessed in other contexts. For instance, see, W B Cohen, Malaria and French Imperialism, *Journal of African History*, 1983, 24, pg. 29; Aran S. Mackinnon. Of Oxford bags and Twirling Canes: The State, Popular Responses, and Zulu Antimalaria Assistants in the Early-Twentieth Century Zululand Malaria Campaigns. *Radical History Review* 80 (2001) 76-100.

<sup>34</sup> For instance, see J Elliot, *Report on epidemic remittent and intermittent fever occurring in parts of Burdwan and Nuddea divisions*, Calcutta, 1863. Similar impressions were subsequently elaborated in Bengali medical texts. For instance see the article entitled Bhati, *Anubikkhan*, Calcutta 1873.

concern about the rapidly depleting faith in quinine in a context when different corrupt versions circulated in the market under the same name.<sup>35</sup>

How could a supply of 'pure quinine' endorsed by the state be ensured? It was suggested that the government could depend on 'reliable agents' at the village level, e.g. the schoolmasters and the 'pathsala' gurus.<sup>36</sup> What was this 'quinine' that the state in India was keen on marketing as 'pure'? Government factories had repeatedly failed to produce 'pure quinine' in India till then. The factories managed to yield several substitutes of Quinine: quinovium, quinidine, cinchonidine, cinchonine etc. The Government was keen on endorsing these 'substitutes' as acceptable variations of 'pure quinine'. These substitutes were often regarded as 'adulterated quinine', while the state contested such allegations. Quinine continued to be advertised as a distant drug, which was very difficult to produce, which could not be procured easily, but its virtue could only be sensed from the healing qualities of its substitutes.

'..I had frequently been told that sulphate of quinine sold by native druggists in Calcutta and mofussil was largely adulterated by mixing it with flour, magnesia, arrowroot and other articles. I was therefore agreeably surprised to find that after analysis ... were not adulterated by any foreign substances, but were either pure Cinchonidine, or contained Cinchonine, which are alkaloids found in the Cinchona bark, and which cannot be distinguished from quinine by the naked eye or unless by analysis...'<sup>37</sup>

The epidemic confirmed supply of bodies affected with malaria. The epidemic provided an 'opportunity' to verify the efficacy of raw Cinchona barks that were cultivated in the

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<sup>35</sup> From D B Smith, M.D, Sanitary Commissioner of Bengal, to A Mackenzie, Esq, Officiating Junior Secretary to the Government of Bengal, dated Darjeeling 5<sup>th</sup> June 1869. Home Department, Public branch, January 1870, 15-29 A. (NAI)

<sup>36</sup> Appointment of a panchayat to superintend the distribution of quinine in the Midnapore district. General department, Medical branch, 192, 1-4, July 1873. (WBSA.)

<sup>37</sup> No. 1238, dated Calcutta, 16<sup>th</sup> October 1872, from S Wauchope, Esq, CB, Officiating Commissioner of Police, Calcutta, to the Officiating Secretary to the Government of Bengal, Judicial Department. Sale of adulterated quinine in the bazaar by native druggists. General department, medical branch, Proceedings 6-8, October 1872. (WBSA.) There were considerable publications in the medical journals on adulterated versions of quinine and other abuses of it. For instance see, Adulterated sulphate of Quinine. *Indian Medical Gazette* Calcutta, 1872, vii, 187; T Skinner, Toxic action of Quinine, *British Medical Journal* London, 1870, i, 103.

government plantations. These tests often aimed to enquire whether the raw unprocessed Cinchona bark or the ‘substitutes’ could cure malarial patients. If confirmed, the government could give up its projects of manufacturing ‘pure quinine’ in India. In a correspondence drafted in July 1872, the Lieutenant Governor instructed the Inspector General of Civil Hospitals to take ‘*opportunity of the epidemic*’ to test the capabilities of the Cinchona bark’:

“The Lieutenant Governor desires that opportunity may be taken of the epidemic fever in Burdwan to test the use there of the Cinchona bark which has already been ordered to be sent, in order to ascertain the capabilities of the bark when used as a simple infusion with boiling water. His Honor would like to find out whether a simple infusion of the bark is a really reliable febrifuge. ...”<sup>38</sup>

### ‘Local’

The configuration and ordering of myriad sensations of physical unease into a particular epidemic in nineteenth century Bengal was conditioned by the prior presence of the colonial medical bureaucracy and the intricate network of correspondences sustained by it. These converged in different moments with blame games stoked by the nationalist press, related publications in the medical journals, deliberations solicited from the perceived agents of local/subdivisional knowledge, retrospective literary works, and post colonial histories. These provided credible contours to the projected story of the ‘malarial epidemic’, as it had been handed down.

The bureaucratic correspondences revealed an intimate, detailed engagement with the geography of interior localities. Almost coinciding with the first Census Report presented in 1871, the demand for a coherent aetiology of the epidemic converged with an aggravated desire for knowledge of the locality. The causes of the epidemic, it was argued, were inherent in ‘the numbers and the classes of the population, of tenures and rents, rates of wages and

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<sup>38</sup> Dated Calcutta 6 July 1872, from J Ware Edgage, Esq, Officiating Junior Secretary to the Government of Bengal to Inspector General of Hospitals, Lower Provinces. Inspector General of Civil Hospitals to take the opportunity of the epidemic to test the capabilities of the Cinchona bark. General department, Industry and Science branch, 5, July 1872. WBSA.

prices of food'. A series of twelve questions was circulated from the Office of the Governor General in Council and the 'local officers' were 'specially desired to give in their periodical reports all they know...'<sup>39</sup> Knowledge of the locality soon went beyond the living conditions of the 'people', but extended over to the landscape and the vegetation it bred. In an official letter written from Cantalpara, Baboo Sunjeeb Chunder Chatterjee to the Hon'ble A Eden, Secretary to the Government of Bengal pointed out the apprehended difficulties towards authentic gathering of knowledge in the localities. The Magistrate was expected to carry out 'detailed and careful inspection of each of the infected villages' in person. This being impossible, he was often found to divide the burden among the police darogahs under him. Overburdened with assignments themselves, the police darogahs ended up deputing their subordinates, i.e. 'Fareedars' and 'Barkundauzes' to execute the orders transmitted to them by the magistrates.

'The mass of people on the other hand, are ignorant of the malarious influence of the jungles, and on the other hand regard them as particularly useful in screening their zenanas from exposure to the public gaze, and especially in supplying their kitchen with vegetables, fruits and fuel. Therefore they would not miss an opportunity to induce the Fareedars to pass over unnoticed such portions of the jungles as lie behind their houses, and have on that account little chance of being discovered from the principal road of the village if ever the magistrate should happen to pass along it'<sup>40</sup>.

To prevent these drawbacks Chatterjee recommended the appointment of three special officers with sufficient penal authorities whose 'local presence' might keep the Fareedars and the villagers 'under control'. It is not very clear from the records whether his recommendations were implemented. However, from the mid 1860s, one notices that Special Engineers were deputed in the 'affected districts'. They were entrusted to 'examine and

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<sup>39</sup> Richard Temple, The Causes of, and remedies for the Burdwan Fever, Minute by the Lieutenant Governor of Bengal, dated 25<sup>th</sup> August 1875. Home department, Medical branch, File 53-55A, November 1875. (NAI).

<sup>40</sup> From Baboo Sunjeeb Chandra Chatterjee, Cantalpara, to the Hon'ble A Eden, Secretary to the Government of Bengal, dated 1<sup>st</sup> May 1863. Home department, Public branch, 7 May 1870, 65-71 A. (NAI)

collect information' on any specific 'local works' that might be required for the 'sanitary improvement' of particular villages'<sup>41</sup>. Mr C Ducas was one such Special Engineer entrusted with the job of locating the causes and remedies of the 'epidemic' in September 1864 in the Burdwan division. He reported after having visited villages Balagore, Kanchrapara, Goopteepara, Jerat, Tribeni and Magrah:

"The *Kutchoo* and *ole*, both bulbous plants, thickly cover the village land, so much so that village roads have disappeared under them, and the ditches have been choked with them. The slopes of tanks are also covered with the *Kutchoo*. The bulbs of these plants are much used by the natives in daily food. The *Kutchoo* is used in place of potatoes and the *Ole* makes nice *chutney*, which is prepared in mustard oil, much in the same way a mango chutney is prepared in the United Provinces... There is not a single village road to be traced, except by the foot tracks, ..." <sup>42</sup> 'nothing can be done to assist... these *localities* when the surface of the country is scarcely visible from the covering of undergrowth, and when village paths have disappeared under them in most places...' <sup>43</sup>

How could 'improvement' be guaranteed? Ducas' solution was simple: construction of roads, denudation of excess, rank vegetation and cultivation of those lands. Sanjeeb Chunder Chatterjee provided a list of thirty-three shrubs, creepers and plants out of which twenty-seven required to be burnt and completely destroyed as a preventive against malaria; six of them had to be uprooted. Among them, plants like *Kuchoo*, *Mankuchoo*, *Laoo*, *Shim*, *Koomra*, when methodically cultivated in the fields could be spared, while *Monsha* had to be preserved for worship<sup>44</sup>. Thus a detailed engagement with certain aspects of local vegetation acquired central relevance in Ducas' narration of the causes behind the epidemic. Such details,

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<sup>41</sup> From H L Dampier, Esq, Commissioner of the Nuddea Division, to Lieutenant G S Hills on Special duty, No. 127 dated 1<sup>st</sup> September 1864. Home department, Public branch, 7 March 1868, 140-143 A. (NAI)

<sup>42</sup> Journal of the occupation and duties of Mr C Ducas, Special Engineer for the fever district, in the Burdwan division, for the month of September 1864. Home department, Public branch, 7 March 1868, 140-143 A. (NAI)

<sup>43</sup> *ibid.*

<sup>44</sup> From Baboo Sunjeeb Chandra Chatterjee, Cantalpara, to the Hon'ble A Eden, Secretary to the Government of Bengal, dated 1<sup>st</sup> May 1863. Home department, Public branch, 7 May 1870, 65-71 A. (NAI)

otherwise quotidian and mundane, emerged as credible inputs informing the engineer's analysis of the 'locality'.

Similarly, dispersed and local tales of perceived shifts in subtle aspects within an elaborate landscape: the drying up of many rivers, the excessive deposition of silt in some, shifting levels in the adjacent subsoil, inconsistent rainfall, state initiatives at the sub divisional level that had backfired<sup>45</sup>; gossips circulating out of rural gatherings converged in Governmental reports as reliable causes behind another malarial outbreak<sup>46</sup>. These various explanations could speak to each other in a shared vocabulary as the authors of these reports rearranged these stories by invoking some branch of science. Thus the idea of malarial Bengal as a landscape undergoing myriad range of mutations was articulated in a language endorsed by science. These local tales were re-written as physical changes in the landscape<sup>47</sup>, engineering debacles<sup>48</sup>, meteorological inconsistencies<sup>49</sup>, debates concerning contagion<sup>50</sup> etc. The 'truth' of the epidemic was underscored in these reliable and credible ways<sup>51</sup>.

Did such narrations then inevitably converge into yet another condescending colonial statement against the poor levels of native sanitation? George Campbell concluded his Minute on the Hooghly fever written in August 1873 by quoting Colonel Haig. Haig

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<sup>45</sup> Leonard Rogers, The lower Bengal (Burdwan) epidemic fever reviewed and compared with the present Assam epidemic malarial fever (Kala-Azar), *Indian Medical Gazette* 32, November 1897, pg. 401-408.

<sup>46</sup> From Baboo Romeshchunder Mookherjee, Deputy Magistrate of Kishaghur, to E Grey, Esq, Magistrate of Nuddea, dated 30<sup>th</sup> November 1863. Home department, Public branch, 7 May 1870, 65-71 A, pg. xlvi. (NAI)

<sup>47</sup> Leonard Rogers, The lower Bengal (Burdwan) epidemic fever reviewed and compared with the present Assam epidemic malarial fever (Kala-Azar), *Indian Medical Gazette* 32, November 1897, pg. 407.

<sup>48</sup> Journal of the occupation and duties of Mr C Ducas, Special Engineer for the fever district, in the Burdwan division, for the month of September 1864. Home department, Public branch, 7 March 1868, 140-143 A. (NAI)

<sup>49</sup> From Baboo Romeshchunder Mookherjee, Deputy Magistrate of Kishaghur, to E Grey, Esq, Magistrate of Nuddea, dated 30<sup>th</sup> November 1863. Home department, Public branch, 7 May 1870, 65-71 A, pg. xlvi. (NAI)

<sup>50</sup> Ibid.

<sup>51</sup> The above mention trends in medical reporting were elaborately witnessed in contemporary Mauritius. See, Charles Meldrum, *Weather, Health, and Forests: A Report on the inequalities of the mortality from the malarial fever and other diseases in Mauritius*. Prepared for the Sanitary Commission of Mauritius, 1881.

characterised lower Bengal as a ‘hollow in which the water stagnates and a mass of decaying vegetation festers in it; where noxious fumes exhale in the hot weather; while the damp of the raw cold weather render it still more unwholesome’.<sup>52</sup> Malaria was imagined in contemporary sources as a mobile, peripatetic agent. Therefore, it is hardly surprising that neither Colonel Haig nor George Campbell attributed malarial fevers to unsanitary localities alone. Let us stay on with Campbell for another moment: “all sanitary science notwithstanding... Colonel Haig truly observes that up to this time there has been much less fever in these reeking swamps than in the higher parts of Burdwan and Hooghly, where there is a sensible natural drainage...”<sup>53</sup>

### **‘Travelling epidemic’**

Some among the prevalent histories have tended to organise different contending explanations advanced in contemporary sources in relation to the epidemic into a debate between two binary opposite positions. It has been suggested that the emergent nationalist press, keen on resisting policies of ‘improvement’ conceived by the colonial state, tended to explain the epidemic in relation to the new channels of communication, construction of railway tracks, embankments, renovated roads. In contrast, the colonial officials are shown to have attributed the epidemic to ‘indigenous’ sanitary practices<sup>54</sup>. However, the fragmented nature of the official explanation to the epidemic is revealed in statements like these emanating from within the files of the colonial medical bureaucracy:

‘The history of the epidemic itself is equally strange. It is shown to have been unaccountably capricious and fitful in its incidence, seizing indiscriminately on towns whose sanitary arrangements were the best, and others where sanitation was quite neglected, and entirely over leaping tracts which there was every reason to suppose most liable for to its attacks’<sup>55</sup>. “... it progresses steadily although slowly, it has

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<sup>52</sup> G Campbell, Minute on the Hooghly fever and condition of the ryots, . Home department, Medical branch, File 53-55A, November 1875. (NAI.)

<sup>53</sup> Ibid.

<sup>54</sup> Arabinda Samanta, *Malarial fever in Colonial Bengal, 1820-1939, Social History of an Epidemic*, Kolkata 2002.

<sup>55</sup> From E C Bayley, Esq, Secretary to the Government of India, to H L Dampier, Esq, Officiating Secretary to the Government of Bengal, No. 867, dated 21<sup>st</sup> February 1868. Home department, Public

followed, like a rolling wave, the chief roads or means of communication and there was no evidence that sanitary conditions had changed to any extent during or shortly before the epidemic”<sup>56</sup>.

What communicated ‘malaria’ was in dispute, but there seemed to be an agreement across different sections of the medical bureaucracy that ‘malaria’ was indeed travelling and was carrying the epidemic along with it. These medical bureaucrats were implicitly drawing from extensive imaginings of malaria as a mobile category. Such imaginings were reflected in medical journals published and circulated beyond local contexts. In the correspondences ‘malaria’ itself was imagined as a substantially mobile onerous entity that could travel like invisible waves across districts, provinces; that could remain latent in the body and could travel with it across continents<sup>57</sup>; ‘could drift up the ravines’<sup>58</sup>; or ‘it moves like mist and rolls up the hill sides, and may travel with the wind for miles...’<sup>59</sup> The transit of malarious particles, Dr Massy of the Army Medical Department in Jaffna believed, were resisted by certain trees the leaves of which were eventually stained with black rust<sup>60</sup>. It is in light of such imaginings one has to read the characterisation of the ‘malaria fever epidemic’ as a ‘travelling epidemic’.

“That the fever did travel is no matter for doubt. Like the **waves** of a flowing tide it touched a place one year and receded, reached it again next year with greater force and again receded, repeating this

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branch, 7 March 1868, 140-143 A (NAI); Observations of the Lieutenant General that the fever is not in the soil or water; but it marches in some unknown manner from one place to another not sparing even those localities which are least open to sanitary objections. General department, Miscellaneous branch, Proceedings 1-2, August 1872. WBSA.

<sup>56</sup> Leonard Rogers, The lower Bengal (Burdwan) epidemic fever reviewed and compared with the present Assam epidemic malarial fever (Kala-Azar), *Indian Medical Gazette* 32, November 1897, pg. 404.

<sup>57</sup> Letter written by one Dr Arthur Christie on Latent malarial disease to the editor of *Medical Times and Gazette London*, May 11, 1872, Pg, 550.

<sup>58</sup> Anonymous review of *What is Malaria? And why is it most intense in hot climates?* By C.F Oldham, published in *Indian Medical Gazette*, . May1, 1871, pg. 102.

<sup>59</sup> Sir Joseph Fayrer, First Croonian lecture on Climate and the fevers of India, *Lancet*, March 25 1882, pg. 423-426.

<sup>60</sup> E. A Parkes, Report on Hygiene for 1867, *Army medical department Report for the year 1866*, Appendix xxxvi, Volume viii, Printed by Harrison and Sons for Her Majesty’s Stationary Office, 1868. pg. 316-317.

process until the country was wholly submerged and tide passed further on...'<sup>61</sup> '...Its main feature is, as we have shown already, that it is travelling, slowly indeed, but, as some have remarked, yet travelling'.<sup>62</sup>

Such widely circulating stories on travel fed into the idea of malaria as an ordering principle. These imaginings bound diverse symptoms of physical unease dispersed across time and space into the radar of a coherent, continuous, single malarial epidemic. This explains how as late as 1899 Leonard Rogers could suggest a biography of 'Burdwan fever' that boasted a lifeline spanning half a century. He extended the life of Burdwan fever back and forth and wove 'outbreaks' in Jessore in 1824, Nuddea in 1862, Mauritius in 1869, Burdwan around 1870s, Assam and Rangpur in the late 1890s as different expressions of the same unending epidemic<sup>63</sup>.

A close reading of contemporary bureaucratic correspondences reveal how the distances covered by the epidemic were represented in quantifiable terms. 'We have found it in our time to have travelled in thirteen years from Nuddea to Hughly'<sup>64</sup>. 'From Jessore it spread slowly (from 5 to 10 miles per year) from one district to another for a period of over 20 years.'<sup>65</sup> Leonard Rogers quoted the Sanitary commissioner for Burdwan in 1874 to have suggested that the epidemic followed this repetitive pattern until it left one locality for another: "During the fourth, fifth and sixth years— six years being the average duration of the fever in any place, -- there was a general and slow recovery, the fever in each successive year attacked fewer persons, was

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<sup>61</sup> Leonard Rogers, The lower Bengal (Burdwan) epidemic fever reviewed and compared with the present Assam epidemic malarial fever (Kala-Azar), *Indian Medical Gazette* 32, November 1897, pg. 402.

<sup>62</sup> Albert M. Vercherie, Extracts from a diary kept during a visit to Burdwan in September 1873, *Indian Medical Gazette* November 1, 1873, pg 287.

<sup>63</sup> Leonard Rogers, The lower Bengal (Burdwan) epidemic fever reviewed and compared with the present Assam epidemic malarial fever (Kala-Azar), *Indian Medical Gazette* 32, November 1897, pg. 401-408.

<sup>64</sup> Gopaul Chandra Roy, *The causes, symptoms and treatment of Burdwan fever. Or the epidemic fever of lower Bengal*, Calcutta 1876, pg. 57-58.

<sup>65</sup> Leonard Rogers, The lower Bengal (Burdwan) epidemic fever reviewed and compared with the present Assam epidemic malarial fever (Kala-Azar), *Indian Medical Gazette* 32, November 1897, pg. 404.

of a less fatal type, and prevailed for a shorter period, finally disappearing altogether in the seventh year”<sup>66</sup>.

### **Conclusion**

The making of Burdwan fever epidemic can hardly be ascribed to conveniently locatable intentions or a straightforward series of causes. The history of unfolding of the epidemic hints at a ‘game of relationships’: between medicine and governance; medical and natural sciences; patterns of bureaucratic reporting, diagnostic methods, pharmaceutical industries; predicaments towards ‘improvement’ harboured by British government in India and the reactions of the ‘local proprietors’; tensions between different layers of local proprietors<sup>67</sup>.

A patient gleaning of contemporary advertisements and medical manuals in Bengali enable us to locate, quite conveniently, ‘other’s’ operating in the medical marketplace besides those who were configuring diverse expressions of physical unease into a continuous epidemic. This alternate, ‘other’ archive suggests how dissimilar ordering principles could be employed to frame quotidian little debilities that were otherwise being explained and expressed as expressions of malaria. Karal Chandra Chattopadhyaya, for instance, attributed his healing skills to divine benevolence and his collection of medical recipes to his extensive travels across a geographical space he identified as Bharatvarssha. In a booklet entitled *Vividha Mahaushadh*<sup>68</sup> he does not acknowledge his debt to any other individual or medical tradition. He barely met his patients in person, but interacted with them through the post, rarely finding the scope for diagnosing his patients. His patients wrote to him about their precise complaints: expressions of pain, unease ranging from bleeding from the rectum, impotency, physical infirmity, gonorrhoea, ulcers, myriad expressions of fever, mercurial disorders etc. Such

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<sup>66</sup> Ibid, 402.

<sup>67</sup> For a detailed overview of the clauses of the Hooghly and Burdwan drainage bill and the reactions of different layers of landed proprietors to it see, Reports on the results of the investigations made by Mr Adley in certain fever stricken districts in the Lower Provinces. Home department, Public Branch, 12 March 1870, 167-170 A. (NAI)

<sup>68</sup> K C Chattopadhyaya, *Vividho Mohaushodh*,( *Specifics discovered and experimented by K C Chatterjee*). Calcutta 1876.

‘complaints’, as we have already noted, were co-opted otherwise within the ‘vortex’ of the epidemic: as preconditions, sequels, or simulations of a single malarial malady. Chattopadhyaya, in return, responded by writing back to his patients, packing the required medicines in an envelope without forgetting to mention the exact dosage and of course, the price with postage that varied with every ailment. Through the agency of his advertisements in the Calcutta and Bombay newspapers his patients came to know of him and wrote testimonials acknowledging his abilities in local newspapers published from places as distant as Dinajpur, Benaras and Lahore. A detailed study of advertisements published in Bengali newspapers towards the end of the 1870s suggests that Chattopadhyay was not alone in the medical market in his silence on the ‘malarial epidemic’. Nor was he the only self-proclaimed healer in Bengal to prescribe generic medicines other than Quinine, or to exploit the emergent networks of postal communication towards the proliferation of his trade<sup>69</sup>.

One can, however, afford to be careful before over-reading these apparently ‘exotic’ sources as a ‘counter-discourse’ to that of the epidemic. While studying the epidemic as an epistemological construction it is predictable if not obvious, to encounter ‘other’ modes of framing diseases, alternate cosmologies and patterns of cure, often addressing overlapping markets. It is equally obvious, therefore, that these alternative configurations would be locked in a relation of mutual dismissal and condescension.

Such indifference to and disinterest in the language of the malarial epidemic: its aetiology and its management, were paralleled by sustained contemporary critiques on the idea of epidemics from within ‘medical science’ itself. The *Indian Medical Gazette* published a series of editorials in instalments in different volumes through the course of 1873 on a common topic entitled ‘prominent fallacies in epidemiology’ which challenged the idea of ‘general’ epidemics. These editorials described epidemics as a fallacy within medical understanding.

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<sup>69</sup> For instance see the advertisements on Morrison’s tonic, *Sambad Purnochandroday*, 30<sup>th</sup> August 1862, pg 1-2 or New Apothecaries’ Hall in *Somprakasha* 15<sup>th</sup> April 1867.

“Another usage of epidemiologists, which leads to most unfounded conception, and encourages wild and unprofitable speculation, consists in the mixture of the term “general” as applied to epidemics... The human mind is, incessantly hankering after causes, and the error of pronouncing a sprinkling of some epidemic disease to be a general phenomenon leads naturally to be facile, but absurd, conclusion...An abstract term “climate” or “epidemic influence” is invented or utilized, and made to do as a substantive ‘theory’ of a more occult or quasi learned description... We have every right to reason that each instance is due to an identical cause or set of causes, but we have no right to conclude that it is due to the same cause or same set of circumstances. The whole process is a melancholy exhibition of false generalising”<sup>70</sup>.

This questioning of the projection of epidemics as general, widely dispersed, homogenous phenomenon converged with considerable scepticism articulated in some of contemporary medical texts about the existence of ‘malaria’ itself.

“...it is probably the uncertainty and difficulty in accepting seemingly opposed facts which have caused a minority among eminent medical observers both in this country and in other parts of the world, to doubt, or altogether deny the existence of any such poisonous agent as malaria. In France and Algeria Dr Burdel regards marsh poison as ‘a myth’; Arman entirely rejects it as a figment of the brain. Among Anglo-Indian officers, Renine writing of China says: ‘Let mud and malaria alone, it will give no one the ague’... Hutchinson thinks malaria will be ‘only an old friend: Carbonic acid’; Dr Knapp, the President of the Iowa University, regards malaria as a ‘hypothetical cause’ that could never be empirically verified, which some practitioners were using as ‘cloaks for ignorance’ that would eventually ‘hinder the progress of medical science’”<sup>71</sup>

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<sup>70</sup> Editorial: prominent fallacies in Epidemiology, *Indian Medical Gazette*, 1873, p 217.

<sup>71</sup> Dr Moore’s proposed inquiry on malaria. Home department, Medical branch, January 1877, 47-48 (NAI). Dr Moore elaborated his views harbouring doubts about the existence of malaria in another article. Moore W.J., An enquiry into the truth of the opinions generally entertained regarding malaria, *Indian Annals of Medical Science*, Calcutta, 1866, No. xx. 375-404.