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Chapter One

The literature of tuberculosis is strewn with
the wrecks of theories once popular, but
now almost forgotten and cast away.

—David Chowry Muthu,
Pulmonary Tuberculosis

In early twentieth-century India, the force of the colonial imagination profoundly reshaped the relationship between hills and cities, microbes and humans. The environment could be ally or foe, and bacteria could be innocent or sinful. Change, rapid and unsettling, was identified as a potent cause of tuberculosis among the colonized. In accompanying an Indian tuberculosis specialist returned from England as he ventured down the dark alleyways of colonial cities, we learn how Indian bodies were simultaneously constrained and yet exposed to pathogenic environments. Constraint was both physical and metaphorical, an opportunity to think about freedom in all its forms: Indian women's perceived lack of freedom, which provided an alibi for women missionary-doctors to enter into enclosed zenanas, bearing bodily salve and spiritual salvation; or the freedom desired by those who fought the British and thereby lost their freedom—and their health—as they were locked away in crowded prisons. To be free was to be open to the therapeutic power of nature, a kind of mediated openness made possible, for example, by the sanatorium. Cure, like its limits, was thought to depend on the ways in which the colonized body was made strong or brought down by its exposure to and enclosure from the swiftly changing world of the British Raj. In the face of such transformations, to focus exclusively on bacteria would have been like trying

To Cure an Earthquake with a pill.

A Disorder of the Imagination

Near the end of the seventeenth century, a Swiss medical student named Johannes Hofer manufactured a neologism to describe the consuming pain of separation experienced by his countrymen—soldiers and sailors in particular—who had been banished to the low-lying plains or to the high seas. He called this feeling *nostalgia*: from the Greek νόστος, *nóstos*, “homecoming, to return home,” and ἄλγος, *álgos*, “pain, grief, distress.”

By dressing what was an ordinary feeling—*Heimweh*, or homesickness—in classical garb, Hofer succeeded in raising it to the status of a nosological category. He conceived of nostalgia as a “disorder of the imagination” that vitiated the vital energies.¹ Stories abounded of nostalgic sailors who, confusing the rolling green seas with the sloping meadows of home, leaped to their deaths. That nostalgia was a real ailment was not in question. But Hofer’s explanation of this malady, lacking as it did a material substrate, proved unsatisfying for succeeding generations of scientists and doctors. In the first two decades of the eighteenth century, the Swiss physician Jean-Jacques Scheuchzer proposed an atmospheric explanation for nostalgia, resting on the difference between the light air of the hills and the dense, heavy air of the plains. For Scheuchzer, air provided a more substantial grounding for nostalgia than imagination, precisely because it was outside the mind.

Yet even air was found to be altogether too ethereal. For the Austrian physician Josef Leopold Auenbrugger, the question remained: how might nostalgia be materialized in the clinical encounter? He found his answer through the use of percussion; the pitter-patter of physicians’ fingers across a series of points on the chest and back, and the varying qualities of sound produced through these taps, could reveal to the trained ear the specific form of pathological intrigue hidden beneath. In 1761, he attuned his well-honed ears to listen for nostalgia: “While all thought is directed toward ungratified desires, the body wastes away, with a dull sound [*sonitus obscurus*] on one side of the chest.”² He confirmed his findings via autopsy: “I have opened many cadavers of those who died of this disease and have always found the lungs firmly adherent to the pleura; the lobes on the side where the sound was dull were callous, indurated, and more or less purulent.”³ For Auenbrugger, nostalgia was localized in the lungs. It was something solid, extending beyond the imagination to take root within the organic body. Nostalgia remained tied to longing, but it was

1. Hofer cited in Starobinski, “The Idea of Nostalgia,” 87.

2. Auenbrugger cited in Rosen, “Nostalgia,” 345.

3. Rosen, “Nostalgia,” 345.

also physiological, an audible and visible malformation of pulmonary tissue, a kind of visceral sound-image. Once located in the distance separating the hills from the plains, nostalgia had now taken up residence in the patient's body.

Where Auenbrugger heard and saw nostalgia, scientists and physicians working at the end of the nineteenth century, moved by developments in bacteriology and pathological anatomy, would find tuberculosis.⁴ As a medical condition, nostalgia lost its standing as physicians began "chasing after bacilli."⁵ Yet tuberculosis remains a profoundly nostalgic condition in both geographic and historical terms. Displaced, with important exceptions, from Europe and America, from the lungs of the elite to those of the poor, tuberculosis is easy to imagine as a condition of a stylized past, an era long gone and far away, replete with artists, philosophers, operatic courtesans, and, perhaps above all, sanatoria.⁶

Historians of the sanatorium have frequently tasked themselves with exorcising nostalgia from the imagination of tuberculosis, piecing together archival residues and oral histories to provide a historicist alternative to a "fictional" or "literary sanatorium," figured as a "romantic ocean liner where middle- and upper-class patients are confined together on a long journey, with ample time for sexual adventures and philosophical reflections."⁷ In this sense, nostalgia remains a disorder of a wayward historical imagination, a "disturbing disease of historicity" that can be exorcised only by stringent fidelity to the documentary remains of therapeutic pasts.⁸ In writing about India, the danger is doubled, in that we are also confronted by a nostalgia for the imperial past.⁹

While researching this book, I often wondered: Can we ever truly escape from nostalgia? Do we depart from Thomas Mann's marvelously *Magic Mountain*

4. On the transition from nostalgia to tuberculosis, see Rosen, "Percussion and Nostalgia."

5. Starobinski, "The Idea of Nostalgia," 100. As Kevis Goodman has argued, nostalgia migrated from medicine into Romantic-era aesthetic writings, particularly those concerned with poetics. See Goodman, "Romantic Poetry and the Science of Nostalgia," 197.

6. As Andreas Huyssen has argued, "The architectural ruin is an example of the indissoluble combination of spatial and temporal desires that trigger nostalgia." In the latter half of the twentieth century, the sanatorium became emblematic of such ruin, a passé therapeutic form that left behind its shell. See Huyssen, "Nostalgia for Ruins," 7.

7. Condrau, "Beyond the Total Institution," 74.

8. Goodman, "Romantic Poetry and the Science of Nostalgia," 197.

9. See in particular Rosaldo, "Imperialist Nostalgia."

only to arrive at Erving Goffman's terrifyingly total institution?¹⁰ Do we exit from the romance of the British Raj only to find ourselves burdened by the heroism of anticolonial nationalist struggle?

What if, instead, we were to return to Hofer's understanding of nostalgia, a disorder characterized by a longing for return? For Hofer, the cure for nostalgia can only ever be nostalgic, that is to say, a cure that depends on return—if only an imaginative one. In the early nineteenth century, for example, a popular prescription for treating nostalgia involved reading books about one's homeland in the hope of carrying the imagination back to its proper place.¹¹

What follows then is my admittedly nostalgic reading of the archival traces of an Indian sanatorium.¹² Because nostalgia, after all, is nothing other than “an elaborated symptom of the waning of our historicity, of our lived possibility of experiencing history in some active way.”¹³ To enter, then, into the complexities of cure in early twentieth-century India—to treat nostalgia as enabling inquiry rather than endangering it—you need a bit of imagination.

So, now, I ask you to read, and to imagine.¹⁴

10. According to Flurin Condrau, the romantic ocean liner was replaced by the total institution as a model for understanding the sanatorium. Both of these models, he argues, are idealizations that can be undercut by careful historical attention. See Condrau, “Beyond the Total Institution,” 74.

11. On bibliotherapy, see Goodman, “Uncertain Disease.”

12. I should note that the documents I have access to largely represent the perspectives of sanatorium staff, physicians, and colonial officers rather than those of patients. Social historians of tuberculosis like Sheila Rothman have provided invaluable studies of patient experience through recourse to patients' letters and diaries as well as family papers. Rothman, *Living in the Shadow of Death*. Unfortunately, I have for the most part been unable to find similar documents in India, having been frequently told by families that papers had been lost or perhaps never existed—especially for those who might not have been literate.

13. Jameson cited in Goodman, “Romantic Poetry and the Science of Nostalgia,” 195.

14. The injunction to imagine is one that I borrow from feminist scholars of science and medicine, especially Michele Murphy, Sarah Pinto, and Banu Subramaniam. In reconstructing the sanatorium through the eyes of an imagined traveler of uncertain provenance, I have attended scrupulously to details drawn from archival sources while allowing space for readers to grapple with the limits and possibilities of their own nostalgic tendencies. Murphy, *Sick Building Syndrome and the Problem of Uncertainty*; Pinto, *The Doctor and Mrs. A.*; Subramaniam, *Holy Science*.

They Once Made Rat Poison Here

Maybe you'd begin in the summer of 1910, on the narrow-gauge tracks of the Kalka-Simla railway line. As your train crosses the Sivalik Hills, the southern sentries to the Himalayas, you crane your neck for a final glimpse of the plains receding behind you.

You had booked your passage all the way to Simla. But as your train navigates the shifty mountain terrain, crossing bridges and threading tunnels, something catches your eye.

There, just outside your window.

And then you remember. You had read something about this in the paper.

Letting your curiosity get the best of you, you abandon the train at the next station, luggage in hand. After proceeding on a brisk hike about a mile and a half east, you come upon a sign: DHARAMPUR SANATORIUM.¹⁵

Just past the sign, a trail opens up before you, carved through mature *kadam* pines leading up a hill and winding past a medication dispensary, storerooms, wooden cottages, and a terraced garden, before finally arriving at a two-story bungalow surrounded by terra-cotta pots bursting with flowers.

Standing on the veranda of that bungalow, five thousand feet above sea level, you breathe deeply the rejuvenating mountain air. Where has your curiosity taken you?

First, you look: balancing at the edge of that veranda, you take in the sea of white double-fly tents (which you had seen from the train) and wooden cottages before you, flanked on all sides by almost seventy acres of pine-dotted hills. You squint, and you're just able to make out the Lawrence Asylum perched atop one of those hills, a military-style boarding school for European children who had been cast off and forsaken, providing them refuge from the sultry and immoral climate of the plains down below.¹⁶

Then, you listen: the peal of gunshots echoes from the nearby Dagshai Cantonment, where the soldiers of the British Indian Army practice their marksmanship. This is a matter of great annoyance to the superintendent of

15. A government document from the early months of 1911 refers to the Dharampur Sanatorium as the Edward Sanatorium in Dharampore, most likely after King Edward VII, for whom many sanatoria across India were named. See the Revenue Secretary to the Government of Punjab to the Superintendent, Hill States, Simla, "Consumptives Hospital at Dharampore," December 20, 1910, no. 969-M. & S., *Proceedings of the Home Department*, January 1912, no. 58, British Library India Office Records (hereafter cited as British Library).

16. The historian Dane Kennedy has described the Lawrence Asylums as the "nurseries of the ruling race." Kennedy, *The Magic Mountains*, 117-46.

the sanatorium, who is roused from his morning meditation when he collects himself at the beginning of each day. That superintendent, A. C. Majumdar, is a retired government servant and former homeopath to the poor from Punjab. Majumdar lives in the bungalow with his wife, niece, and on occasion his daughter, a schoolteacher living in Lahore who visits during the holidays.

These three institutions—the boarding school, the military encampment, and the sanatorium—represented in miniature the many faces of state power in India. The colonial government had taken great interest in this little sanatorium, primarily for fear that the illness contained within would spread to the military men stationed at the nearby cantonment. An officer or two had even been sent to inspect the operations of the sanatorium.

Such visits had taught Superintendent Majumdar a great deal of patience. Of course, he also knew that the support of the government could be invaluable. Only last year, he had requested that spare water from the Dagshai Cantonment's pipes be provided to the sanatorium.¹⁷ He had also convinced the railway officials to station a guard over the tracks during the hotter seasons. It had happened before that friction produced by the painful grinding of the train against the tracks had set fire to the dry pine needles that littered the ground, no small threat to a community floating in a sea of pines. And in fact, Majumdar explains to you, some of the patients prefer to sleep out in the open, on a bed of pine needles, to maximize their exposure to the curative powers of nature.

Majumdar's wife, who has just returned from the cowshed, brings you some tea made with fresh milk.

While you sip, Majumdar reaches for his files. Even in retirement, the habits of a former bureaucrat are slow to fade. He presents you with documents of incorporation, as well as the finances from the previous year, showing that 61,000 rupees were received, much of it from the shipbuilding Wadia family. Some of these funds, he tells you proudly, are used to support those patients too poor to pay for their own care. Poverty, he insists, should be no bar to treatment.

Before you have time to ask, Majumdar starts telling you about the founding of the sanatorium, which began as the dream of the Bombay Parsi Behramji Malabari. A man of letters and a fierce social critic, Malabari engaged in contentious debates around issues like widow remarriage and age of con-

17. Quarter Master General in India to General Officer Commanding, Lahore Division, "Consumptives Hospital at Dharampore," February 25, 1911, no. 4241-1 (Q. M. G. - 3), *Proceedings of the Home Department*, January 1912, no. 55, British Library.

sent laws for women.¹⁸ As his interests stretched to encompass concerns about health, he set up the Consumptives Home Society in 1907 to begin searching for a suitable location to establish a sanatorium.¹⁹ It was thought that a large swath of land somewhere up in the hills would provide the ideal climate and environment for the sanatorium-based cure. Many locations were canvassed, but most lacked a climate amenable to outdoor living throughout the year. Where the weather was good, the land was prohibitively expensive. The pair of sanatoria that already existed in India, near Ajmer and Almora, were operated by missionaries who received funds from their home congregations.²⁰ Dharampur was the first sanatorium in India to operate outside of the Christian fold.

Eventually, through the influence of a few well-placed contacts, Malabari's organization entered into conversations with Patiala, a princely state governed under the watchful eye of the British Raj. The maharaja of Patiala, whose many wives and concubines had themselves been afflicted, was sympathetic to their efforts. In June 1909, he granted to the society the kadam pine hills for a pittance, just 5 rupees per year.

But enough about Malabari and the maharaja. At this point, Majumdar refills your teacup and begins telling you about his own background: how he had become involved with the Sadharan Brahma Samaj, an organization committed to social and religious reform, modernization, and service to the poor.²¹

18. For a fascinating discussion of Malabari as a reformer and travel writer, see Grewal, *Home and Harem*.

19. Honorary Secretary, "Report of the Consumptives' Homes Societies, for the first year ending May 31, 1910," August 2, 1910, Annexure to an order issued by W. S. Meyer, Chief Secretary, Government of Madras Public Department, order no. 675, British Library. This order suggests that Dharampur might serve as a model for a sanatorium proposed for Madras. See also Ramanna, *Health Care in Bombay Presidency*, 89.

20. In 1906, a missionary-run sanatorium was established near Ajmer (in present-day Rajasthan), likely the first in India. Two years later, another was established by the Church of Scotland near Almora (in present-day Uttarakhand), this one exclusively for women patients. The well-known sanatorium at Madanapalle was established in 1915, by a group of Christian missionary societies. As a rule, these sanatoria were frequently segregated along the lines of race, caste, class, gender, and, given their missionary orientation, religion. See Kathiresan, *Kasu Noi*.

21. The Sadharan Brahma Samaj was founded in 1878 as an offshoot of Rammohan Roy's Brahma Samaj, established in Calcutta in 1828. The Sadharan Brahma Samaj was involved in various social activities, running schools, libraries, printing presses, and philanthropic organizations, while also offering aid during famines and epidemic outbreaks. Philosophically, the Sadharan Brahma Samaj was opposed to a kind of Hinduism organized around patriarchy and caste hierarchy, although its own membership

How he had traveled to the United Provinces during the famine that had ended the lives of millions, and to the Kangra Valley after the earthquake that had swallowed up over twenty thousand souls.²² How he had ministered to the poor, traveling from village to village armed only with his box of medicines. But from June 1909, he says with some pride as you finish your second cup of tea, patients had begun traveling to him, the first Indian sanatorium director in the country, trickling in from every corner.

After having tea with Majumdar, you go for a stroll around the grounds of the sanatorium. You run into Dr. Banerji, the sanatorium's voluntary physician from Allahabad. He invites you to join him on his daily rounds, during which you meet a high-caste Hindu woman from Ferozepur with advanced-stage tuberculosis. Her husband is far away, studying at an engineering college in England. She herself is well educated. Dr. Banerji notes with great respect in his voice that she has even read the *Yoga Vasishtha* in the original Sanskrit. Although she doesn't say much, a smile lingers across her lips throughout your visit. As you leave, Dr. Banerji notes that she plans to return to Ferozepur within the next week, against his admonitions, uncured.

At this point, the doctor's assistant joins you, a staunch vegetarian and former hospital aide from Bombay, who also happens to be a patient at the sanatorium. As they continue their rounds, he weighs every patient in turn and takes their temperatures, recording each figure in a small notebook that he carries with him. As you walk with them, you meet a Eurasian from Bombay, a Hindu judicial officer from the United Provinces, a Kashmiri Pandit woman who refuses to lie down despite the stern reprimand of the doctor, and a Bengali woman who insists, against all contrary opinion, that she is completely cured.

tended to be drawn from upper-caste, English-speaking elites. See Bhatt, "Brahmo Samaj, Arya Samaj, and the Church-Sect Typology."

22. The United Provinces and many surrounding regions experienced famine in 1896–97, resulting in upward of five million deaths in the affected area. The Kangra earthquake struck in 1905, leveling most of the buildings in the surrounding parts of Punjab, including McLeod Ganj and Dharamsala. With regard to famine specifically, the historian Benjamin Siegel has noted that the British tended to view such famines as natural parts of the Indian climate and landscape, and the failure of Indians to survive these famines as evidence of their incapacity for self-rule. Certainly, Malthusian ideas about population growth underscored much of their thinking. Siegel, *Hungry Nation*, 9. For an earlier history of this kind of thinking, see Arnold, "Hunger in the Garden of Plenty."

You also encounter a wealthy Sikh gentleman from Gwalior, sitting outside his wooden cottage with one of his attendants, concentrating intensely on a chessboard laid out before him.²³ As you study the board with him, another attendant brings out the midday meal for his master, prepared in the kitchen shared by many of the sanatorium's residents. Without looking up from the chessboard, the Sikh gentleman orders the attendant to send an extra portion of food to the man from Poona who lives next door, a destitute Britisher who survives on the charity of his sister and who detests the food prepared by his own servant, a notoriously terrible cook.

Stifling a yawn, the Sikh gentleman from Gwalior asks your leave, as he wishes to curl up with a Marie Corelli novel and take a nap. But he invites you to return to sup with him in the evening, when you meet his friend, a fellow Sikh from Punjab carrying a harmonium. Unfortunately, neither he nor anyone else at the sanatorium knows how to play it. With a hearty laugh, the wealthy Sikh gentleman promises to have a gramophone and a musician brought to the sanatorium. After all, chess is certainly not an entertainment suitable for all of the sanatorium's patients.

In fact, just after dinner, you attend a party thrown by the superintendent for the children at the sanatorium. You listen with great pleasure as a young girl recites poetry in crisp English while her brother, a precocious but fragile youth, sits nearby watching, taking great pride in his sister's virtuosity. Unlike many of the missionary-run sanatoria, you observe that the Dharampur Sanatorium treats an incredibly wide range of people: Hindus, Muslims, Christians, Sikhs, and Parsis, Indian and English, men and women, rich and poor, adults and children. Although each has their own living space and, if they can afford it, their own caretaker and food. After all, the sanatorium remains a part of a larger social world, one rife with rules of division.

Such social distinctions become evident to you that evening. You watch as the sweepers arrive to remove the night soil from the cottages and tents. You watch as they bury paper, cups, and envelopes covered in tuberculous mucous and saliva coughed up by patients. Dr. Banerji tells you that, eventually, an

23. The figure of a wealthy gentleman playing chess is reminiscent of Satyajit Ray's 1977 film *Shatranj Ke Khilari* (The chess players), a period drama organized around two aristocratic men playing chess in the princely state of Awadh under the shadow of the British East India Company, and on the eve of the 1857 Rebellion. Ray's film is based on Premchand's 1924 Hindi short story of the same name. On the story and the film, see Pritchett, "The Chess Players." Death from tuberculosis, figured as a largely incurable disease, would feature prominently in several of Premchand's works, including the 1921 short story "Maa" (Mother) and the 1928 novel *Nirmala*.

incinerator will be built—more hygienic, more sanitary, he explains—but until then, this is how things are done.

By then, the sun has set, and the supervisor generously offers to put you up for the night. Before heading to bed, you decide to take a walk around the grounds to enjoy the cool, clean air as it whistles through the trees. As you walk, you come upon neat rows of empty iron casks that had carried water from the Dagshai Cantonment, ready to be returned and refilled the next morning. And as you keep walking, you think back to what the supervisor told you, that the grounds of the sanatorium had once been used by the Plague Department for the manufacture of rat poison.²⁴ Looking around at the well-oiled organization around you, and staring into the night sky, it is hard to imagine that now.

Taken in by all that you have seen and heard—or perhaps there is some other reason?—you wake up the next morning and decide to stay a little while longer, in one of the empty cabins, vacated and sanitized a few weeks earlier after the death of a patient.²⁵ After all, not everyone can be saved. Especially those who arrive too late, when the disease has already progressed too far.

You come to understand this better just a few days later. While in the midst of a rousing game of chess with the Sikh gentleman, a bedraggled man appears suddenly from behind a clump of trees. His appearance gives you quite a fright, so much so that you jump out of your chair and knock over the chessboard.

No matter, you were losing anyway. After recovering your senses, you help the man stumble the rest of the way to the superintendent's home. A Rajput police inspector, he had trekked through the woods rather than arriving by the path that you had taken just a few days earlier. The exertion demanded by the journey is too much for the man. He begins coughing up blood.

Arrangements are hastily prepared to take care of him, although there is little available room. (You offer your own cabin, explaining that you have no real reason for being there, but oddly enough, neither Superintendent Majumdar nor Dr. Banerji seem to want to take you up on your offer.)

After the police inspector has been settled in, he explains to Dr. Banerji that he had eaten too much pork, which made him ill. That illness in turn led to his consumption.

24. On the history of plague in turn-of-the-century India, see Catanach, "Plague and the Tensions of Empire."

25. At the turn of the century, disinfection likely entailed the use of some combination of Izal (a by-product of the process through which coke is distilled from coal), mercury perchloride, carbolic acid, soap, and sunlight.

Dr. Banerji tries to keep the police inspector calm, explaining that he has nothing to fear. The man responds cheerfully, if weakly: "I am a Rajput and I do not fear death."²⁶

By June of the following year, he has passed away.

Cases like that of the Rajput police inspector pose a problem for the sanatorium. The incurable ones, they are called (but never to their faces—that would be utterly demoralizing). After the police inspector dies, you hear from a few of the patients that the old maharaja has big plans to build a consumptives hospital nearby, for those patients who are on their way out.²⁷ It is a controversial plan; the military brass has begun to complain. Colonel Hedley, the principal medical officer of the Sirhind Brigade, currently stationed at Dagshai, grouses that the sanatorium is already a "menace to the health of the general public."²⁸ A hospital for the "worst cases," who are according to him "the most infectious," would only make matters worse.²⁹

You can't help but think that Hedley has a point. Just below the site of the maharaja's future hospital for incurables is the halting place for draft animals on the Simla Road, a predictably filthy stretch of land plastered in manure and flies. Hedley worries that those flies would feed on the tuberculous sputum of dying consumptives and carry the disease to the nearby bazaar, and then on to the cantonment. Ultimately, though, it is the maharaja's land—even the cantonment was built on land lent by the maharaja to the military. And after all, one mustn't look a gift horse in the mouth.

Eventually—after days, or weeks, or has it been years? It is hard to say how much time has passed—you pack your things and head back through the kadam pines down the hill. As your train departs from the station, you reflect

26. "Report of the Consumptives' Homes Societies, for the First Year Ending May 31, 1910," p. 5, August 2, 1910, British Library.

27. Flurin Condrau points out that in Britain and Germany, great effort was expended to make sure that those patients who were admitted to sanatoria were treatable. Those with terminal prognoses were discharged to die elsewhere. In Dharampur, the proper site of death became the hospital. See Condrau, "Beyond the Total Institution," 81.

28. General Officer Commanding, Sirhind Brigade, to the Assistant Quarter Master General, 3rd (Lahore) Division, "Consumptives Hospital at Dharampur," May 8, 1911, includes "Copy of an office note by the Principal Medical Officer, Sirhind Brigade, to the Brigade Major, Sirhind Brigade," Memorandum no. 3479-R, *Proceedings of the Home Department*, January 1912, no. 59, British Library.

29. General Officer Commanding, Sirhind Brigade, to the Assistant Quarter Master General, 3rd (Lahore) Division, "Consumptives Hospital at Dharampur."

on your days at the sanatorium, the most unexpected people you befriended, those you did not, and above all, the respite that the sanatorium provided you from life in the plains. How did Dr. Banerji describe it, just a few weeks earlier when he too was preparing to leave? He said that it was nature, and the open air more specifically, that restored vitality to tuberculous patients and brought them cure.

And as you descend back toward the lowlands, you're left to wonder: had the sanatorium cure worked on you too?³⁰

A Body of Machines and Nerves

For almost a century, the British had scaled the Indian hills to escape the sweltering climate of the plains. But sanatoria like the one at Dharampur offered something more than pearly colonial resorts nestled in idyllic hill stations: not just the climate, but the architecture, the diet, the graduated exercise, the sunlight, the watchful eyes of the superintendent and the doctor, the communal activities, the break from everyday life, the peace, and the rest.³¹ Through the coordination of these elements in the sanatorium, the tuberculous body was exposed to the curative power of nature.

This openness was explicitly opposed to the predicament of the Indian body in the colonial city. In the early 1920s, an Indian tuberculosis specialist named David Chowry Muthu stepped away from his thriving sanatorium practice in England to travel across India, a trip that took him “from Bombay to Burma” one way “and from Nepal to [the] Nilgiris” in the other.³² As he traveled around India, Muthu found tuberculosis everywhere. In all of the major

30. Details included in this section have been largely gleaned from the aforementioned “Report of the Consumptives’ Homes Societies, for the First Year Ending May 31, 1910,” as well as from a letter in which a Major E. Wilkinson describes an unplanned trip he made to the sanatorium on August 22, 1910. Major E. Wilkinson, Sanitary Commissioner, Punjab, to the Secretary to Government, Punjab, “Establishment of Sanatoria for Treatment of Patients Suffering from Tubercular Diseases,” October 7, 1910, no. 169-S, *Proceedings of the Home Department*, May 1912, no. 48, British Library. Dharampur Sanatorium is also fleetingly referenced in a variety of other documents, which have provided valuable context for this section.

31. On the sanatorium as a therapeutic technology, see Adams, Schwartzman, and Theodore, “Collapse and Expand.” See also Venkat, “A Vital Mediation.”

32. Muthu, “Some Impressions of Tuberculosis Problems in India,” 118.

cities and towns, he estimated that one in three deaths among adults could be attributed to the disease.³³

Close to four decades earlier, Muthu had left India behind to become a doctor in London. There, he had trained with renowned physicians, joined the YMCA and the British temperance movement, was nicknamed “the Christian Brahmin” by the papers, married an English woman of minor peerage, and raised a family.³⁴ Muthu eventually left London to take charge of the Inglewood Sanatorium on the Isle of Wight, a plot of land off the southern coast of Britain renowned for its healthy air and home to some of Britain’s first sanatoria. He quickly became dissatisfied with the low altitude of the isle, and after three years relocated to the Mendip Hills, in the west of England. Perched in his new sanatorium, balanced eight hundred and fifty feet above the valley of Wells, Muthu built for himself a comfortable life in a country where he stuck out like a sore thumb.

It was there that he received a rather unexpected visitor, the Indian journalist Saint Nihal Singh. In a glowing review of Muthu’s sanatorium, Singh limned for his readership a majestic image of three hundred acres of “woodland and meadow, in the heart of the pine-clad Mendip Hills.”³⁵ Nevertheless, he wondered aloud why someone like Muthu would give so much of himself for the English, and yet do nothing for his own people.

Singh’s rebuke found its mark, and Muthu found himself back in India. In the course of his travels around the country, Muthu witnessed the affliction among “all classes and races, from the humbler ranks of coolies, mill-hands, and servants, to the educated and well-to-do communities.”³⁶ From the last group, he singled out “junior clerks with small and fixed incomes, college students burdened with the strain of long hours and a heavy curriculum, and child-mothers badly nourished with poor stamina.”³⁷

How had the Indian city become so conducive to tuberculosis? And among such a broad range of people? In part, the answer had to do with the organization of urban spaces. Muthu described “cities like Delhi and Lucknow . . .

33. Muthu admitted that there was great variation between Indian cities. “Crowded Bombay presented a higher death rate from tuberculosis than Bangalore with its garden cities,” he wrote. Muthu, “Response to ‘On the Social Aspects of Tuberculosis,’” 518.

34. *Morning Star*, March 21, 1895, 1.

35. Singh, “An Indian Tuberculosis Specialist in England,” 531.

36. Muthu, *A Short Account of the Antiquity of Hindu Medicine*, xcix.

37. Muthu, *A Short Account of the Antiquity of Hindu Medicine*, c.

full of slums, blind alleys, and narrow passages, where the sun never shines and fresh air never penetrates.”³⁸ “Even middle-class and humbler Anglo-Indians,” he wrote, crammed together “under the joint-family system . . . find their accommodations more and more limited.”³⁹ Shielded from nature, the Indian city was the antithesis of the sanatorium. Rather than openness, there was enclosure, and enclosures within enclosures, exacerbated by the impact of urban crowding and pauperization. What Muthu observed in his travels was not the planned, modernist city of Le Corbusier, but rather the city built up through a dialectal relationship between improvisatory, ad hoc construction by local interests on the one hand and colonial sanitation and building projects on the other.⁴⁰

In this sense, India was no different than England during the Industrial Revolution, where the density and impoverishment of industrial cities were also linked to increasing rates of tuberculosis. “Factory life,” Muthu lamented, “has turned men and women into machines.”⁴¹ It was only a matter of time before they were broken beyond repair. Rather than a body plagued by germs, what Muthu imagined was a body that registered its environment as a kind of organic machine. In Muthu’s words, we can hear echoes of Karl Marx. The worker, caught within an ever-expanding division of labor, became for Marx involved in an increasingly “one-sided and machine-like type of labour.”⁴² Writing in the early 1840s, Marx noted that such a worker becomes “depressed . . . both intellectually and physically to the level of a machine, and from being a man becomes an abstract activity and a stomach.”⁴³ Through the merger of mechanical and organic metaphors, the human laborer became a hungry robot engaged in repetitive and meaningless activity.

But could the deprivations of industrial labor adequately explain why such a broad range of Indians—mill hands and servants but also child-mothers, students, and clerks—fell ill? Alongside his vision of the body as organic machine, Muthu also imagined the body as a system of nerves, capable of both vitality and exhaustion.⁴⁴ In the early nineteenth century, the delicate body characteristic of the

38. Muthu, *A Short Account of the Antiquity of Hindu Medicine*, cii.

39. Muthu, “Some Impressions of Tuberculosis Problems in India,” 119.

40. On the distinction between the high modernist city and the improvisatory, ad hoc city, see Scott, *Seeing like a State*.

41. Muthu, *Pulmonary Tuberculosis* (1922), 7.

42. Marx, “Economic and Philosophical Manuscripts,” 285.

43. Marx, “Economic and Philosophical Manuscripts,” 285.

44. Much of the historical work on the nervous body has focused on Britain.

See, for example, Logan, *Nerves and Narratives*; Bonea et al., *Anxious Times*. Salisbury and Shail’s edited volume extends this history into Europe and the United States. See

lady of refinement, once praised for its sensitivity to the environment, became pathologized as a mark of frailty. Sensitivity was reformulated, at least in part, as nervousness.⁴⁵ In the face of unceasing labor, relentless poverty, and population growth, and as the tempo of life quickened over the nineteenth and early twentieth centuries, the nervous system became both a barometer and a metaphor for the stress and breakdown of Victorian bodies trapped within “both literal and figurative structures of confinement.”⁴⁶ With the body, mind, and soul depleted, wrote Muthu, “the nervous system becomes dulled, the thinking powers lose their brightness and activity, the brain gives way under constant dread of hunger, and the man either becomes insane or ends his unfortunate life by committing suicide.”⁴⁷ Nervousness was more than a problem of the individual; what the nervous body exposed was a weakness that threatened to slide into racial degeneracy.

Whether as an organic machine or a bundle of nerves, the body was clearly figured as an energetic, vital system, one capable of exhaustion through physical and psychic stress. While Britain had undoubtedly been transformed by industrial capital, India’s transformation took place under the yoke of colonial rule. What for Muthu distinguished Indian cities from their European counterparts was the severity of this transformative shock. Indians, Muthu claimed, were unprepared for this new way of life. Colonized people were robbed “of their freedom,” tempted by “rifles and drink,” and forced to endure the “speculators, planters, gold-diggers, convicts, and the refuse of European communities.”⁴⁸ Their “moral habits” were not, he insisted, “strong enough to stand the strain of such a violent change of environment.”⁴⁹

The problem, for Muthu, was the very process of civilization: “The contact of the East with the West has caused great social, economic, industrial, moral, and spiritual upheavals, as seen in the growth of towns and cities, the expansion of trade and commerce, the depopulation of villages, decay of home industries, migration in towns, high rents and dear food, overcrowding and

Salisbury and Shail, *Neurology and Modernity*. There is also an expansive literature on neurasthenia, or nervous exhaustion, in the United States. See, for example, Gosling, *Before Freud*.

45. Wilson, “The End of Sensibility.”

46. Taylor-Brown, Dickson, and Shuttleworth, “Structures of Confinement,” 138.

47. Muthu, “A Discussion on Poverty,” 939.

48. Muthu, *Pulmonary Tuberculosis* (1922), 133.

49. Muthu, *Pulmonary Tuberculosis* (1922), 133.

insanitation, poverty, want, intemperance, and degeneration.”⁵⁰ According to Muthu, civilization had deprived the colonial subject of “the immunity that he enjoyed while he lived in the open air.”⁵¹ Among British medical officials and administrators of the time, tuberculosis was frequently described as a disease of civilization, couched in terms of the metaphor of seed and soil.⁵² The ubiquity of such a metaphor in the early twentieth century reveals the continued reliance of the science of tuberculosis on a kind of Judeo-Christian agrarian thought.⁵³ The seed referred to the inciting factor, something that arrived from outside. The soil referred to a (racialized) body or group, or to the environment in which such bodies and groups were located. Scientists and physicians debated over which of the two factors played a greater role in the genesis of disease. Did you fall ill because you were fragile or otherwise vulnerable? Did you inherit a constitutional disposition toward tuberculosis from your family or racial group, or were you exposed to an environment that rendered you weak? Or was it simply that something alien had entered your body?

The idea of soil carried clear racial—and gendered—connotations. Entire colonized populations were classified as “virgin soil,” until recently untouched by the seed of certain diseases. Within India, Gurkhas, Pathans, tribal groups, and Anglo-Indians were thought by the British to be most susceptible to tuberculosis, as virgin soil populations with little experience of tuberculosis. As civilization marched triumphantly forward, colonized populations across Asia, Africa, and the Americas underwent the necessary process of tubercularization as they gradually acquired immunity to the disease—albeit at a heavy cost.⁵⁴

Ideas about virgin soil would be applied to understand patterns of tuberculosis-related morbidity and mortality across the British Empire and the United States. To be clear, tubercularization was not an individual process

50. Muthu, *Pulmonary Tuberculosis* (1922), 135.

51. Muthu, *Pulmonary Tuberculosis* (1922), 6.

52. Harrison and Worboys, “A Disease of Civilization.”

53. On the naturalization of the metaphor of seed and soil in the context of gender and reproduction, see Delaney, *The Seed and the Soil*, 31. As Delaney has shown, this metaphor must be carefully unraveled to understand the relative contribution and value of each component. For a clear explanation of the metaphor of seed and soil in relation to a rather different condition, see Homei and Worboys, *Fungal Disease in Britain and the United States*, 137–38.

54. On debates concerning tubercularization, see Packard, *White Plague, Black Labor*; Gandy, “Life without Germs”; Bynum, *Spitting Blood*; McMillen, *Discovering Tuberculosis*.

but rather one experienced by entire populations, construed in terms of race. The spread of tuberculosis was taken to be a necessary, if at least partially lethal, step on the path toward modernity, one built on Darwinian notions of natural selection.⁵⁵ Weaker representatives of a racial group would be killed by the disease; the stronger would survive.

In India in the 1920s and '30s, debates about the specificity of tuberculosis in India often returned to the metaphor of seed and soil: was tuberculosis in India a tropical disease, and as such, constituted by an altogether different seed or more impaired soil than in Europe?⁵⁶ If it was indeed a distinct tropical disease, rather than the same tuberculosis that could be found in Europe, then causal explanations organized around the civilizing process made little sense. Despite his insistence on civilization as a kind of foundational cause for tuberculosis in India, Muthu found the racial logic underpinning the seed-and-soil metaphor unconvincing: "Even the current idea of a virgin soil as being the cause of the rapid spread of tuberculosis among the dark races should be imputed not to an impaired physical soil, but first to a depraved moral environment, brought on by the collusion of two different standards of living and thinking."⁵⁷ The problem was not that colonized populations were inherently fragile or weak, waiting to be culled through the process of tubercularization, but that their ways of life were being distorted and reformed at breakneck velocity. For Muthu, then, tuberculosis in India was not the product of a virgin soil, an inherent susceptibility or lack of immunity, but rather—to continue the metaphor further than Muthu might have wished—the colonial devitalization of the soil. The persistence of an agricultural metaphor alongside industrial images of a mechanical and nervous body further demonstrates how colonial medicine was able to draw on the most varied of sources. According to Muthu, colonized peoples were ill prepared for this onslaught of new ideas, norms, and ways of being. The rapid rate at which the physical and moral environments were being reshaped under British rule created a misfit between colonized bodies and their equally colonized environments. The conjoint effects of poverty, malnutrition, overcrowding, climate, and custom could not, at least for Muthu, be untethered from the colonial transformation of the Indian body and its environment.

55. Arthur Lankester, who appears later in this chapter, took a slightly different view, contending that tuberculosis in India was the result of the country being "improperly civilized." In Harrison and Worboys, "A Disease of Civilization," 115.

56. See Brimnes, *Languished Hopes*, 55–56.

57. Muthu, *Pulmonary Tuberculosis* (1922), 133–34.

The Backup Plan

But change in and of itself was not the problem. The environment was always in flux. Change was necessary, inevitable. After all, life was nothing other than a constant process of becoming, an organism adjusting to its changing *milieu*, a concept that referred to the “life-sustaining envelope surrounding an individual” as well as “the space connecting two entities.”⁵⁸ The precise contents of milieu were open to debate, ranging from the social and biological to the material and the ethereal. Just as bodies adjusted to the milieu, so too did curative interventions adjust to ideas about the milieu.

Both healthy and diseased states were a part of this same process of adjustment. In the early stages of a disease, Muthu argued, the symptoms that manifested represented nothing more than the body’s effort to adjust to a changing environment. He conceptualized this relationship between health and disease by recourse to a metaphor drawn from wartime: “If health can be understood in terms of the ordinary plan of a war campaign which a general follows in the course of war, disease can be likened to his alternate plan which he keeps in his pocket to be used should a crisis arise and the first plan prove unsuccessful.”⁵⁹ Disease was the ultimate backup plan. When all else failed, it provided a circuitous route to victory: “The symptoms which arise in disease are part of the curative process of nature.”⁶⁰ What this meant was that, at least in theory, tuberculosis carried with it its own cure, in the form of “fever, inflammation, caseation, fibrosis, etc.”⁶¹ Health and disease were not opposed states, but rather two means through which the body sought to achieve equilibrium with its surroundings. Disease was not necessarily a bad thing. Disease could be curative—a sign of life’s persistence rather than death’s approach.

Of course, the backup plan could fail. According to Muthu, it was a risky proposition that could lead back to health or culminate in death. Disease became pathological when the body failed to make the proper adjustments to changes in its environment. But it was more than that. Pathological disease was not just a failure to adjust, but a loss of the very capacity to adjust. Such a loss took place “when the stress of war is continued”: when the environment changed and kept changing, in a way that made it nearly impossible to adapt.⁶²

58. Tresch, *The Romantic Machine*, 4.

59. Muthu, *Pulmonary Tuberculosis* (1927), 110–11.

60. Muthu, *Pulmonary Tuberculosis* (1927), 111.

61. Muthu, *Pulmonary Tuberculosis* (1927), 111.

62. Muthu, *Pulmonary Tuberculosis* (1927), 111.

In such a state of permanent war, the body was transformed in a deep and lasting way: “The functional adaptive changes pass on to structural changes, and structural to more or less permanent organic changes.”⁶³ The temporary symptoms of disease, which once demonstrated the body’s willingness to adapt, became indissoluble, like an affectation repeated often enough to turn to unbreakable habit.

Under such conditions, the signs and symptoms of tuberculosis no longer represented an adjustment to new conditions, but were instead “the surface indications of a greater and more serious bodily derangement.”⁶⁴ In the process, the body was unmoored from its capacity to change, which was, fundamentally, its capacity for life. As the historian of medicine Georges Canguilhem explained, “Each disease reduces the ability to face others, uses up the initial biological assurance without which there would not even be life.”⁶⁵ Here, again, we can see an echo of the nervous body, one that is not just temporarily exhausted, but permanently diminished.

Civilization. Modernization. Westernization. Tubercularization. What these terms point to is a process of dizzying and irrefutable change. Colonial rule as a state of permanent war. The chessboard overturned, the pieces scattered on the floor. No more moves to make, the backup plan no longer an option.

Muthu’s concerns about rapid social change were not only his own.⁶⁶ In the wake of the Indian Rebellion of 1857, dubbed the Sepoy Mutiny by those on the other side, change became a matter of serious philosophical and political reflection. As the territories ruled by the British East India Company were reorganized under Crown rule, colonial administrators like Henry Sumner Maine worried that the source of chaos and disorder in India was to be found in the changes wrought by British intervention.⁶⁷ The years following the rebellion witnessed an increasingly conservative approach to introducing change in India, especially in regard to what were thought to be social and religious customs.

63. Muthu, *Pulmonary Tuberculosis* (1927), III.

64. Ott, *Fevered Lives*, 34–35.

65. What Canguilhem describes here helps to explain why the Rajput police inspector whom we met at the Dharampur Sanatorium explained his tuberculous condition as the result of eating too much pork and falling ill. Canguilhem, “Disease, Cure, Health,” 117.

66. Concerns about change were also voiced by other colonial physicians. See Brimnes, *Languished Hopes*, 32.

67. On Maine’s conservative vision, see Mantena, *Alibis of Empire*.

Such an approach produced its own set of problems. As rulers over an alien land, how were the British to know what counted as ageless tradition? How could the Indian order of things be ascertained? Were high-caste scholars the appropriate arbiters of Indian custom? Were sacred scriptures the primordial source of tradition? Was Indian society essentially one that was organized around caste hierarchy? Despite its reputation for timelessness, the territory governed under the auspices of the British Indian Empire was a dynamic and diverse place. What was required was the production of knowledge about how things were or, rather, how they had originally been. As the British rulers of India proceeded to tease out Indian tradition from the messiness of life in India as it was actually lived, certain ways of conceptualizing traditional society were privileged over others.⁶⁸ Where there was once dynamism, debate, and plurality, the British sought to impose a kind of uniformity. In the name of keeping things the same, everything changed.

Into the Zenana

And then there were the reformers. Those who insisted that things—at least, certain things—must change. Colonialism was a fractured and fragile construct, composed of contending interests that occasionally overlapped or made common cause but often found themselves looking at a matter from rather different angles.⁶⁹ This was particularly true in India, where the government, under both East India Company and Crown rule, hesitated to allow missionization in British territories for fear of promoting political instability.

To understand how the controversies around social change were tied to concerns about health, we might look to the Scottish Presbyterian missionary Thomas Smith, who in 1840 penned a controversial proposal in the pages of the *Calcutta Christian Observer*. Smith bemoaned the sequestering of Hindu women, especially high-caste women, in zenanas, those inner spaces within the home shielded from the world of men. What Smith wanted for these women was an education (which of course he hoped would reveal the contradictions of Hinduism and lay the foundation for conversion to Christianity). Smith's proposal received little support, from high-caste Bengali patriarchs or from his fellow

68. On the sanctioning of a largely upper-caste vision of social life over others and the changes it produced in Indian society and politics, see Dirks, *Castes of Mind*.

69. On the misalignments of church and state in colonial times, see Comaroff and Comaroff, *Of Revelation and Revolution*.

missionaries. For the time, the zenana remained cloaked in an imagined darkness, impenetrable and, for that reason, something to be penetrated.

Things changed with the arrival in Calcutta of the educator and missionary John Fordyce, who latched onto Smith's proposal and ran with it. In 1854, he began assembling a cadre of ayahs, governesses, teachers, and women missionaries to educate the wives and daughters of Bengal's most influential families. Many of these zenana missionaries, as they were called, began to receive training as doctors, nurses, and midwives, concerned as they were with both the bodily and spiritual salvation of Indian women.⁷⁰ This form of ministry was a kind of Christian therapy, a "blend of medical science, charitable sentiment and evangelical faith."⁷¹ Within this liberal feminist imaginary, Indian women had been deprived of freedom, held captive by Indian men.⁷² It was thus the task of the British—and British women in particular—to establish their freedom by opening up the zenana.⁷³

The work of women missionaries became critical to the research of the physician Arthur Lankester. A former medical missionary himself, he broke from his role as the director of the Medical and Sanitation Department for the Nizam of Hyderabad to explore the prevalence of tuberculosis across the subcontinent. His actions were a response to a pair of sanitary conferences that called for an investigation into tuberculosis in India, one in Madras in 1912 and a follow-up in Lucknow two years later.⁷⁴ Delegates at these conferences had raised doubts about the statistical rise in tuberculosis in India: was it really a product

70. Burton, "Contesting the Zenana."

71. Hardiman, *Healing Bodies, Saving Souls*, 153.

72. As Inderpal Grewal notes: "What is remarkable in the modernization of Indian women is the way in which such women began to think of their lives within their homes and the regulations under which they lived as restrictive, as a form of *unfreedom*. . . . Life in the zenana, considered normal before the British, was reconstituted as pathological in comparison with an abstract and idealized notion of English life, the patriarchal ideas of which became the norm for many English-educated Indians." Grewal, *Home and Harem*, 169–70, emphasis added.

73. A similar colonial logic of opening as freedom can be found across multiple domains in India. For example, colonial officials took the opportunity of plague to "breach the privacy of the Bengali home through enforced searches and removals." See Mukharji, *Nationalizing the Body*, 164. Across the British Empire, enforced liberation often targeted women, as in colonial interventions into female genital cutting. See Boddy, *Civilizing Women*.

74. Concerns about tuberculosis were voiced at an earlier sanitary conference held in Bombay in 1911, but the call for inquiry started in Madras. See Brimnes, *Languished Hopes*, 24.

of spreading disease, or simply a reflection of better diagnostic and recording procedures?⁷⁵

To answer this question, Lankester traveled across India from July 1914 to June 1916 collecting evidence. He drew heavily on the accounts of other medical missionaries and physicians—and in particular, women—whose work in the zenanas made them among the vanguard in detecting tuberculosis among the native population. Women medical missionaries played a crucial role, teaching scripture and offering treatment while acquiring valuable information about the lives of Indian women.

What Lankester learned from zenana missionaries confirmed what had long been suspected: that there was “scarcely a zenana . . . which has not some case of tuberculosis!”⁷⁶ Lankester noted that women confined to zenanas were usually unable or unwilling to leave their homes to seek medical treatment. In a report on his findings, Lankester clarified that tuberculosis was unrelated to religious, ethnic, or racial grouping. Hindu or Muslim, high caste or low, what mattered was enclosure. Light and air had been traded for privacy. More accurately, open air had been traded for the pathogenic, uncirculating air of the zenana.⁷⁷ In Lankester’s estimation, it was a poor bargain. The zenana was undoubtedly “the most insanitary part of the house,” he wrote, full of “damp, dark, airless corners.”⁷⁸ Little wonder, he remarked, that tuberculosis “plays havoc in the zenanas.”⁷⁹

In 1916, Lankester submitted his findings to the colonial government. His original report was circulated among the provinces for comments, but

75. Lankester, *Tuberculosis in India*, 2.

76. Lankester, *Tuberculosis in India*, 140.

77. Air could be classified in many ways: the uncirculating air of the zenana, and of the city more generally, was frequently opposed to the circulating, vitalizing air of the sanatorium, and of the hill station more broadly. There were other kinds of air that could also be either pathogenic or salubrious: the miasmatic air of the swamp and the devastatingly hot air of the Loo, on one hand, or the bracing air of the sea, on the other. For related conversations, see Yankovic, *Confronting the Climate*.

78. Lankester, *Tuberculosis in India*, 141.

79. Lankester, *Tuberculosis in India*, 141. Lankester aside, the association between the zenana, tuberculosis, and Muslim women was pervasive. For example, delegates at the All-Indian Sanitary Conference in Bombay, held in 1911, expressed particular concern about tuberculosis among Muslim women in Calcutta. See All-India Sanitary Conference, *Proceedings of the First All-India Sanitary Conference Held at Bombay on 13th and 14th November 1911*, 136 (Calcutta: Superintendent Government Printing, 1912), Wellcome Library. For a related discussion of Lankester’s views on the zenana and purdah, see Brimnes, *Languished Hopes*, 33–34.

was never released to the public, raising questions about the colonial government's motives in keeping the report under wraps. When Lankester finally published his findings as a book, he received mixed reviews: some agreed that tuberculosis was a serious problem for the health of the Indian population, and others insisted that his findings were overblown.⁸⁰ Undoubtedly, Lankester's concern was not only with the Indian population but also with the effective functioning of mission and empire. The spread of tuberculosis posed a danger to those who were involved in the routine operations of colonial governance. In addition to medical officers and missionaries, he underlined the threat to a wide range of government employees, from railway ticket masters, clerks, and schoolteachers to police officers, postal workers, and telegraph operators.

Lankester found his views on tuberculosis in the zenana echoed in official medical circles. In 1923, the director-general of the Indian Medical Service, C. A. Sprawson, attributed the increased mortality of Muslim women from the disease to "the restriction of the zenana which confines women to their rooms and to a narrow courtyard; usually there is no garden. The middle-class Mohammedan woman sees nothing else than this during her life, and within that small and insanitary area are enclosed female relations and children and often one or more servants. I have several times seen tuberculosis run through a zenana and destroy the majority of its inmates in a few years."⁸¹ In an important break from Lankester, Sprawson added that the pernicious effects of enclosure were not only embodied but also passed down hereditarily to the point of becoming a racial characteristic. Environment, race, and bacteria all mattered, funneled through heredity. In other words, one's own susceptibility to tuberculosis in the present could be the result of the enclosure of previous generations.⁸² Zenanas were inherently pathogenic, not only to those who lived in

80. On those who agreed with Lankester, see Rao, "Tuberculosis and Public Health Policies," 34. On those who disagreed, see Brimnes, *Languished Hopes*, 29.

81. Sprawson, "Tuberculosis in Indians," 483. The director of public health for the Madras Presidency shared these concerns, noting in 1923 that "among purdah women conditions are even worse [than among nonpurdah women], tuberculosis being particularly common." Cited in Van Hollen, *Birth on the Threshold*, 44.

82. The racialized ideas of resistance and susceptibility developed and endorsed by Lankester and Sprawson grew out of the writings of S. Lyle Cummin and S. L. Cobbett in particular. See Cummin, "Primitive Tribes and Tuberculosis"; Cobbett, "The Resistance of Civilised Man to Tuberculosis." On Lyle Cummin's ideas about race-based resistance and immunity, see also McMillen, *Discovering Tuberculosis*, 19–20; Worboys, "Tuberculosis and Race in Britain and Its Empire"; Worboys, "Before McKeown," 159.

them but also for succeeding generations who might themselves live in more salubrious surroundings.

If the zenana was framed as a space where women could be protected from the outside world, it is clear that it was also figured as a highly gendered threat to that world, as a breeding ground or womb for contagion, a reservoir from which tuberculosis could run roughshod through the city and into the outlying areas. “The disease of consumption,” wrote Lankester, “has emerged from the quiet of the zenana into the open life of the people.”⁸³

A Bacterial Theodicy

Let’s return for a moment to the metaphor of seed and soil. Lankester, and later Sprawson, emphasized the importance of both seed (that which arrived from outside) and soil (a body or its environment) to explain how and why people fell ill. In the zenana, there was darkness, seclusion, insanitary conditions, and poor ventilation, they argued. But there were also bacteria.

Neither seed without soil, nor soil bereft of seed, would lead to tuberculosis. As Lankester envisioned it, there were “special corpuscles or cells in the blood, lymphatic glands, and other organs, which under conditions of perfect health can deal with the tubercle bacilli, destroying their vitality and their power to multiply.”⁸⁴ A healthy body (which was an unenclosed body) could render these pathogenic bacteria powerless. The seed was necessary, but it was nothing without the right kind of soil.

Lankester’s way of parsing the metaphor of seed and soil was common enough. But it was far from universal. Muthu, like Lankester, had studied the effects of tuberculosis on the Indian population and was strongly convinced that tuberculosis had nothing to do with bacteria. Certainly, bacteria existed. He could see them under the microscope. But seeing something, and knowing how to interpret it, were entirely different matters.

Muthu’s skepticism emerged out of his experience treating patients in his sanatorium practice, many of whom showed every sign of tuberculosis—but no bacteria. Other patients continued to harbor bacteria long after other signs of the disease had faded away. If bacteria were truly the cause of tuberculosis, they should be present in every sick patient and absent in every healthy or cured one. Yet evidence of bacteria didn’t seem to indicate that a patient suffered from tuberculosis, “any more than the presence of eagles near a corpse

83. Lankester, *Tuberculosis in India*, 15.

84. Lankester, *Tuberculosis in India*, 142.

shows that they are the cause of the dead body.”⁸⁵ Muthu cautioned against what he thought to be an obsessive and foolhardy hunt for microbes, relating that a patient had once asked him, “I eat well, I sleep well, I feel well, what is this t.b. [bacteria] you are searching for?”⁸⁶

What indeed?

What Muthu observed was that bacteria in general were frequently defined in moralistic terms. He roundly criticized the science of bacteriology for “so persistently calling our attention to [bacteria’s] evil ways that we have ignored the fact that myriads of them render priceless service to man, and that life would cease to exist even for a day without their aid and co-operation.”⁸⁷ Muthu concluded that the great majority of bacteria were either necessary for life or simply harmless. Bacteria, he argued, helped the body work by participating in the “physiological functions of digestion, assimilation, and excretion.”⁸⁸

No, bacteria were not evil. If anything, they were victims of their human hosts. “Tubercle bacillus take their virulence from the soil and are poisoned themselves through it.”⁸⁹ According to Muthu, cells, and particularly bacterial cells, were not specific, stable entities. Their shape, their potency, and their effects were entirely a product of their porosity to their surroundings. If those surroundings happened to be an unhealthy human body enclosed within a pathogenic space, then it was no wonder that things went awry. Bacteria were, in this sense, victims to their hosts, and to their hosts’ surroundings.

The picture before us is that of worlds enclosed within worlds.⁹⁰ The colonized subject, trapped within the city or confined in the zenana, whose capacity for adapting to the changing environment has been stripped from them. And within the colonized subject, another world of cells, struggling and failing to

85. Muthu, *Pulmonary Tuberculosis* (1927), 56.

86. Muthu, *Pulmonary Tuberculosis* (1927), 68.

87. Muthu, *Pulmonary Tuberculosis* (1927), 46. As Nancy Tomes notes, this “gospel of germs,” replete with the moralizing idioms of evil and sin, was far-reaching, taking root not only in the United States and Europe, but in China and the Philippines as well. See Tomes, *The Gospel of Germs*.

88. Muthu, *Pulmonary Tuberculosis* (1927), 45.

89. Muthu, *Pulmonary Tuberculosis* (1922), 67.

90. It’s tempting to see in Muthu’s vision of the body a kind of proto-microbiome, or even a Cold War defensiveness, as in the figuration of the immune system described by Emily Martin. However, Muthu’s vision of the body might be better understood as a response to the emerging body of bacteriology (which prefigures the Cold War body), as well as in terms of the nationalist body and its need for defense from colonial violation. Martin, *Flexible Bodies*.

adjust to the pathogenic milieu of their human hosts. If there was evil to be found, it was at the level of (colonial) politics and power. What Muthu seemed to be articulating was a form of biomoral thought that made it possible to think morality and the question of evil beyond the merely human realm, by drawing the lengthy threads that connected microorganismic life to the form of life engendered by colonial rule.⁹¹ In a real sense, what Muthu was putting forward was a critique of colonialism on microbiological and theological grounds—the two were, for him, inseparable.

What we have then is a tale of shared victimhood. In the same way that human bodies were shaped by their surroundings, so too were bacteria. Muthu drew a moral and theological parallel between the bacterium and the human sufferer: “micro-organisms are not born pathogenic to hurt man,” he insisted, because “man is not born to evil and to sin.”⁹² In Muthu’s theologized medicine, God did not create evil beings, so bacteria could not be inherently evil. It was turtles all the way down, a series of nested environments in which the container gave shape to what it contained.

The consequences of this line of thinking were quite striking. Bacteria were not the seeds that caused our illness. They did not make us suffer; they suffered with us. Muthu went even further in suggesting that bacteria were not really bacteria at all. Rather, they were parts of our bodies, normal human cells that had been transformed through their enclosure in the pathogenic environment of the human body. Human cells could mutate into bacteria, while bacteria could mutate into other kinds of bacteria, and potentially, if the conditions were right, back into human cells. There was no stability, no essence; only mutability and openness to being shaped by the milieu. If bacteria did not come from outside, if they were not in fact seeds planted in the body, then they

91. The idea of the biomoral comes from the work of McKim Marriott, who, inspired by David Schneider’s work on kinship, wrote of the simultaneously biological and moral substance that composes the Indian “dividual.” Marriott, “Hindu Transactions.” This idea has been creatively developed by many anthropologists, far beyond those who work on questions of medicine and personhood in South Asia. Of particular relevance is Joseph Alter’s extensive scholarship on Gandhian dietetics, in which morality was a problem where “truth and biology were equally implicated.” Alter, “Gandhi’s Body, Gandhi’s Truth,” 301. At the same time, it is important to note the ways in which both antistigma activists and those involved in the anti-Brahmin/ anticaste movements in south India have worked to pry apart ideas of morality and biology, under the signs of political and scientific modernity, bhakti devotional movements, and the Tamil Self-Respect Movement (*suya mariyathai iyakkam*).

92. Muthu, *Pulmonary Tuberculosis* (1922), 140.

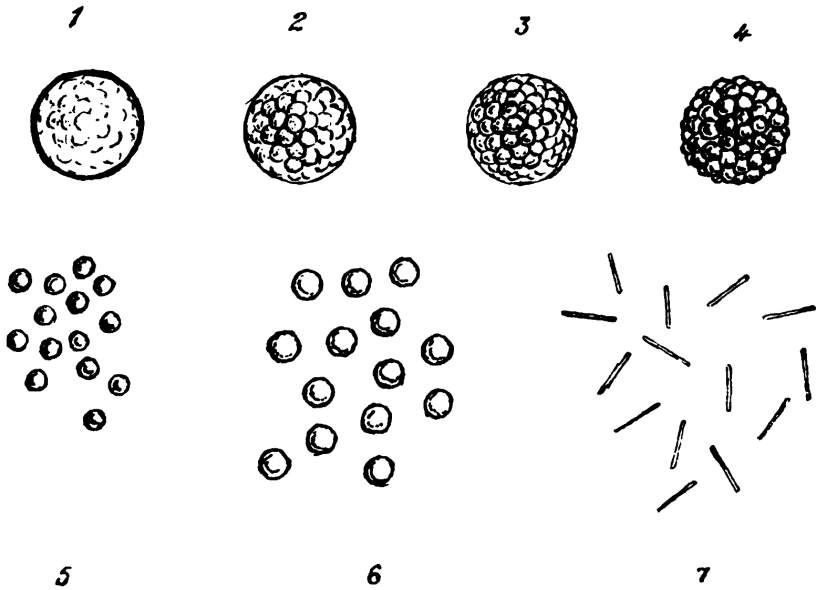


Figure 1.1. This image, which diagrams the mutation of a leukocyte (a white blood cell) into a bacterium in seven steps, was reproduced by Muthu in his book with the permission of C. H. Collings. Collings, Muthu, and many others were continuing the half-century-old debate between two French scientists, Antoine Béchamp and Louis Pasteur. Béchamp had insisted against Pasteur that the body was composed of entities called *microzymas*. These microzymas, Béchamp maintained, were the basic building blocks of the body, and they were inherently unstable (and therefore mutable). Diagram taken from Muthu, *Pulmonary Tuberculosis* (1922), 174.

could not be the cause of disease. They suffer with us because they are part of us. The cure for humans, then, was also the cure for bacteria. In this sense, cure represented a kind of theological intervention that exceeded the human, encompassing worlds both larger and smaller.

Life in the Void

As the years rolled by, those who prioritized soil at the expense of seed in their explanations of the cause of disease found their position increasingly difficult to defend. It all started back in May 1882, when the German bacteriologist Robert Koch announced that he had isolated the true cause of tuberculosis, a rod-shaped bacterium visible only under a microscope. It probably started even earlier, with Louis Pasteur's demonstration that germs live among us. Or even before that, as an inkling about microbial existence slowly became a full-blown

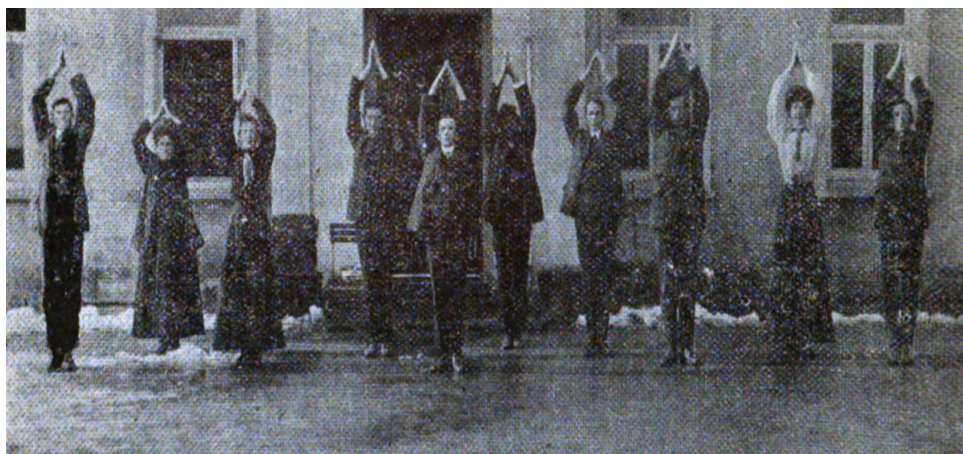


Figure 1.2. Patients engaged in breathing exercises at Muthu's Mendip Hills Sanatorium in Britain. Singh, "An Indian Tuberculosis Specialist in England," 536.

thought. Nevertheless, the events of 1882 certainly moved things along, especially when it came to tuberculosis. With Koch's microbial discovery, hopes ran high among both physicians and sufferers that a cure would soon follow.

Since the time of the Greek physician Galen, knowing what causes a disease had been taken to be a critical step toward finding its cure (an idea we still hold dear in our time of mysterious syndromes and phantom pains).⁹³ But a cure that specifically targeted bacteria was slow to come. Between the time of Koch's announcement and the development of the first antituberculosis drugs in the 1940s, between these two revolutions in medicine—an etiological revolution premised on knowledge of germs, and a therapeutic one founded on the development of antibiotics—the relationship between cause and cure was thrown out of sync. As the historian of medicine Katherine Ott put it, "Koch's discovery created both a theoretical and technical *void* rather than any insight into therapeutics and prophylaxis."⁹⁴

For Muthu, the solution was not to be found in specific treatments that targeted bacteria, which would be like "administering a pill to cure an earthquake."⁹⁵ Even for those like Lankester and Sprawson, who held what was arguably a

93. On the relationship between knowledge of cause and knowledge of cure, see Porter, *Medicine*, 68.

94. Ott, *Fevered Lives*, 53, emphasis added.

95. Muthu, "Some Impressions of Tuberculosis Problems in India," 120.

more balanced view of the relationship between seed and soil in attributing some part of disease causality to bacteria, there remained no clear means of targeting these bacteria. The only option was to transform the soil. The weakened body was vulnerable to tuberculosis. How then might its vitality be restored?

Vitalism has had many incarnations: as a philosophy, as a means of grappling with the concept of life in all of its complexity, and as a basis for therapeutic intervention. In the early twentieth century, when physicians in India referred to vitality, they had in mind the idea that something distinct from matter—a force, power, or principle—animates and gives life to that matter. Above all, the presence of vitality distinguished the living from the nonliving. In its most polemic forms, vitalism stood against mechanism, a competing strain of philosophical thought that posited that life could emerge from nonliving elements without the infusion of a vital supplement. For the mechanists, life was nothing more than an incredibly complex machine (but as we have seen, the vital and the mechanical could be intertwined, as in the figure of the organic machine).

The enduring place of vitalism in the treatment of tuberculosis can be attributed, at least in part, to the lasting influence of German Romantic *Naturphilosophie*. The first sanatorium, with its focus on the restoration of vitality in the open air, was established in Silesia (now Poland) by the physician Hermann Brehmer in 1854. About thirty years later, when Koch argued that tuberculosis was caused by bacteria, it's tempting to imagine that he was putting the final nail in the coffin of vitalism. Yet vitalism did not simply vanish. Nor did the sanatorium. To the contrary, the sanatorium cure and its vitalist foundations flourished in the void generated by Koch's discovery. Bacteriological modes of understanding, explaining, and treating disease did not simply displace vitalist modes of reasoning.⁹⁶ References to bacteria mingled freely with discussions of vitality, resisting energies, vital force, power, and capacity.

In India, the influence of vitalist thought stretched far beyond medicine. After all, *Naturphilosophie* had drawn heavily on Romantic readings of Indian philosophy and religion.⁹⁷ But we might also look to those forms of mysticism that circulated between Britain and colonial India, which led to the formation of the highly respected Theosophical Society, founded by the occultist Madame

96. Worboys, *Spreading Germs*. As Craig Gordon puts it, the sanatorium exemplified “the persistence of vitalistic understandings of the disease in the face of the advances in medical science that dominate traditional histories.” Gordon, *Literary Modernism, Bioscience, and Community*, 62–63.

97. See Ott, *Fevered Lives*, 33; see also Chakrabarti, *Western Science in Modern India*, 207.

Blavatsky and established in Madras in 1883.⁹⁸ Another source of vitalism in India could be found in the work of the Bengali scientist Jagadish Chandra Bose, whose research into metals and plant cells confounded the boundaries between living organisms and nonliving matter by applying physiological categories to inert substances.⁹⁹

Gesturing toward what he took to be more autochthonous sources of vitalist philosophy in India, Muthu claimed that the “ancient Yogis” understood that “breath was life, and that fresh atmospheric air, in its freest state, was charged with a universal principle of life, or vital force, called *prana* . . . through which life manifests itself.”¹⁰⁰ By calling on such traditions, Muthu effectively recuperated an Indian history of vitalist thought in medical practice, allowing him to make claims about the precocious knowledge of Indian antiquity. Taken together with the German vitalist traditions, he was able to construct a historically deep and geographically wide-ranging justification for sanatorium therapy. In fact, Muthu had gone as far as to incorporate a kind of secularized yoga practice into the sanatorium treatment he offered in the Mendip Hills of Britain (and most likely in India as well). Despite his references to ancient yogis, the form of yoga practiced in his sanatoria was largely decontextualized from its ancient moorings and reconstituted within the culture of physical exercise emerging in both Britain and India.¹⁰¹ Such a yoga fit well into Muthu’s sanatorium program, which incorporated the British sanatorium’s emphasis on graduated exercise with the German sanatorium’s focus on open-air therapy.

Muthu also looked to what was called “nature cure,” a form of therapeutics with foundations in Europe that had been taken up with much enthusiasm in India.¹⁰² In his correspondence, Mahatma Gandhi, a prominent advocate for

98. On the circulation of Theosophical thought, see Viswanathan, “The Ordinary Business of Occultism”; see also Jones, *The Racial Discourses of Life Philosophy*.

99. On Bose’s alternative science, see Nandy, *Alternative Sciences*; Viswanathan, “The Dreams of Reason,” 43; Geddes, *The Life and Work of Sir Jagadis C. Bose*.

100. Muthu, *Pulmonary Tuberculosis* (1922), 81–82, 90.

101. On the reconstitution of yoga as modern physical exercise tied to anatomy, and as a form of therapeutics, see Alter, *Yoga in Modern India*. For the use of yoga as a form of physical culture central to anticolonial and Hindu nationalist movements, see Valiani, *Militant Publics in India*, 36, 49–50. On the history of the mainstreaming of yoga in Britain and its de-essentialization, albeit in a later period, see Newcombe, *Yoga in Britain*.

102. On nature cure in India, see Alter, “Nature Cure and Ayurveda.” Vitality was a serious concern for many practitioners of the Indian nature cure. One of its main

nature cure, invoked Muthu's work to argue for natural forms of healing that relied on diet and environment.¹⁰³ Gandhi had in fact consulted with Muthu about his high blood pressure and digestive problems. In an interview with the Associated Press, Muthu is quoted as saying, "I found that [Gandhi] had injured himself through too much fasting. I put him on a diet which varied goat's milk with salads, vegetables, fruits and nuts . . . but the Mahatma didn't like the salads, so he went back to goat's milk and nuts. . . . He continues to do this even in prison."¹⁰⁴

In a letter addressed to Muthu from 1928, Gandhi wrote, "As you know I have a horror of drugs and the like. I therefore welcome every honest effort to replace them with drugless and what might be termed natural methods of curing a disease which need never find an abode in this sunny soil of ours."¹⁰⁵ Nature cure and sanatorium treatment provided a means for Muthu to unearth what, to his mind, had already been known within Indian medical and philosophical systems. The centrality of vital forces in the shaping of health and illness was a profoundly universal truth. No, a pill would not do. To cure an earthquake, you had to restore the vitality of the soil itself.

Bone, Muscle, Blood, and Pluck

If the restoration of vitality depended on the body's openness to nature, we can begin to understand why zenanas occupied such a frightful place in the British imagination. Through enclosure and confinement, the women who inhabited zenanas were not only shielded from society but deprived of life itself. Nevertheless, British empathy had its limits. While certain kinds of bodies seemed

proponents, K. Lakshmana Sarma, argued that "by excessive attachments one comes to disregard the rules of hygienic living; and this leads to a loss of vitality." In Alter, *Gandhi's Body*, 80.

103. Gandhi's faith in Muthu's philosophy led him to recommend him to friends. He even organized the treatment of the son of a jeweler friend, Revashankar Jagjivan Javeri, by having Muthu travel from Madras to Bombay to examine a tubercular bone. Gandhi also wrote to Rajaji and Nehru about Muthu's ideas. See Gandhi, *The Collected Works*, February 25, 1928, vol. 41, 225; February 27, 1928, vol. 41, 238; February 29, 1928, vol. 41, 239.

104. "Gandhi, Fortified by Goat's Milk, Fit for New Battles," 24.

105. Gandhi, *The Collected Works*, April 5, 1928, vol. 41, 368. Writing in his Gujarati-language weekly newspaper, Gandhi explained "vital essence" as something that "chemists cannot detect by analysis," even though "health experts have been able to feel its presence." *Navajivan*, June 6, 1929, in Gandhi, *The Collected Works*, vol. 46, 124.

to cry out for salvation (at least to those with a certain kind of humanitarian, often Christian sensibility), others demanded enclosure and even imprisonment. What kind of cure could be imagined for those whose freedom had been ripped from them by the state?

The question of tuberculosis in prisons began to emerge in the late 1850s, with the arrival in India of a young doctor named Joseph Ewart, an assistant surgeon posted to the Bengal Medical Service, at a time when India was under the corporate rule of the British East India Company. Ewart was a physician and a researcher. He hungered for information. Records of disease and death among civilian populations in India were notoriously uneven and frequently unavailable. Working with officials from across the Madras, Bengal, and Bombay presidencies, Ewart began collecting information about hospitalizations and deaths. What he found was that there were in fact two populations that were kept under regular surveillance, for whom morbidity and mortality statistics were scrupulously recorded: soldiers and prisoners.

The information he gathered allowed him to make comparisons not only between soldiers and prisoners but also between Britishers and Indians. Among both native and British regiments, Ewart found that phthisis was the fourth leading cause of disease and death.¹⁰⁶ The rates of phthisis were lowest among native soldiers, with their British counterparts suffering at about twice the rate. British officers, who undoubtedly enjoyed a higher standard of living than either of these other two groups, fell somewhere in the middle.

What Ewart documented was a clear difference between the races. He bemoaned this needless loss of “British bone and muscle, British blood, and British pluck” on Indian soil.¹⁰⁷ Governing a colony like a business was an expensive endeavor, paid for in British lives. For much of the nineteenth century, colonial medicine in India was primarily enclavist, focused on the

106. A helpful reminder: throughout the nineteenth century and into the early twentieth, the terms *scrofula*, *phthisis*, and *tuberculosis* were used to describe a variety of related conditions. Generally speaking, *scrofula* referred to a swelling of the glands, *phthisis* referred to wasting, and *tuberculosis* referred to a condition in which caseous growths, or tubercles, could be found in the lungs. Prior to the establishment of a common bacterial cause for these conditions, their relationship was a matter of much debate.

107. Joseph Ewart, *A Digest of the Vital Statistics of the European and Native Armies in India: Interspersed with Suggestions for the Eradication and Mitigation of the Preventible and Avoidable Causes of Sickness and Mortality amongst Imported and Indigenous Troops* (London: Smith, Elder and Co., 1859), 6, Wellcome Library TRO RAMC Collection, Rare Materials Room.

lives of Europeans stationed in cantonments and behind civil lines.¹⁰⁸ Given this inequality of attention, Ewart began to ask himself why it was that Indians seemed to suffer less than Britishers. For much of the nineteenth century, the general consensus among British medical doctors and colonial administrators was that tuberculosis was not a serious problem in India. Prior to the turn toward theories of virgin soil, the natives of the subcontinent were thought to enjoy a partial immunity to the condition. In part, it was thought that this had something to do with the climate. Even British soldiers, in the early stages of the disease, were advised that travel to India might alleviate their symptoms, if not offer complete cure.

Beginning in the 1840s, reports began to trickle in of tuberculous conditions among Indians examined at hospitals and dispensaries across northern India: in Howrah, Mindapore, Cawnpore, the lower Himalayas, and lower Bengal.¹⁰⁹ In 1854, T. W. Wilson of the Bengal Medical Service forcefully argued against the prevailing notion that the disease was somehow rare in India, and that the Indian climate offered much in the way of cure for the British soldier.¹¹⁰ Ewart built on Wilson's findings, blaming the scarcity of Indian cases on poor diagnostic skills (specifically, auscultation); the difficulty in making postmortem examinations of native bodies; and finally, the high prevalence of "bowel complaints" among the Indian population, which he noted often carried them away before tuberculosis could manifest itself.¹¹¹ Nevertheless, Ewart argued against Wilson that tuberculous conditions were in general rarer in India than they were in Europe.

Except perhaps, among those who were confined to Indian prisons. As in the military, phthisis was the fourth leading cause of death among prisoners. However, Indian prisoners tended to fall ill and die at far higher rates than their compatriots in the army. Ewart was shocked by what he described as the "defective sanitary and hygienic state of Indian Prisons," which produced the

108. The movement from enclavist medicine to something like a more capacious public health concerned with Indian lives began toward the end of the nineteenth century, particularly in the wake of epidemic outbreaks like plague in 1887–88. Rather than simply an extension of sympathy or an assumption of responsibility, this move should also be read as a response to the growing understanding that the shared environment (and the possibility of infection) meant that Indian health inevitably had effects on British health.

109. Joseph Ewart, "On Scrofula, Tuberculosis, and Phthisis in India," *Indian Medical Gazette*, December 1882, 335, Wellcome Library K21780.

110. Wilson, "On Tubercular Diseases in the East."

111. Ewart, "On Scrofula, Tuberculosis, and Phthisis in India," 335.

“most appalling mortuary bills that are to be found among any class of human beings on the face of the civilized world.”¹¹² As things were going, he estimated that it would only take about fifteen years to complete the “annihilation of the criminal population.”¹¹³

As a solution, Ewart proposed that greater powers should be granted to the medical officers of prisons, who held an advisory role and were involved only in “curative” rather than “preventive” endeavors, an arrangement that Ewart described as “fatal to successful sanitary discipline.”¹¹⁴ It’s difficult to say whether his appeal bore fruit. But it is clear that, when it came to disease, Indian prisons remained sites of grave concern for decades to come.¹¹⁵ As late as 1924, a government report compiling data from across the country noted that overcrowding and disease were serious problems in Indian prisons.¹¹⁶ The report included, for what seems to be the first time, a separate category for “tubercle of the lungs.”¹¹⁷ Yet the great majority of provinces had no data available for prisoners with tuberculosis.¹¹⁸ Despite this lack of data, many provinces reported that the disease was “rare” and that “very few prisoners contract the disease in jail.”¹¹⁹

112. Joseph Ewart, *The Sanitary Condition and Discipline of Indian Jails* (London: Smith, Elder and Co., 1860), v, Wellcome Library K21780.

113. Ewart, *The Sanitary Condition and Discipline of Indian Jails*, 2.

114. Ewart, *The Sanitary Condition and Discipline of Indian Jails*, xi.

115. In 1919, the Bombay municipal commissioner reported that 51,525 prisoners were confined in his prisons. However, the *Bombay Jail Manual* clearly stated that each prisoner was to have at least 648 cubic feet of space. By that measure, the number of prisoners should have been about 27,000, about half of the existing population. Cited from *Bombay Jail Manual*, annexure to letter from E. J. Turner to the Public & Judicial Committee, March 31, 1926, 156, R. & S. 2398/20, L/P/1/6/1927, British Library.

116. “Report on the Sickness and Mortality in the Jails of India and Tables Relating to the Jails in British India for 1924: Overcrowding and Tuberculosis in Indian Jails—Report by the Government of India,” 1926, p. & J. 409, Public and Judicial Department, L/P/1/6/1927, British Library.

117. “Note by the Public Health Commissioner with the Government of India on the Health of the Jails in India during 1924,” with table included as annexure, 1926, p. & J. 409, British Library.

118. Government of India, Home Department, Simla, despatch to Earl Birkenhead, His Majesty’s Secretary of State for India, “Jails,” May 12, 1927, Subject: “Overcrowding and Tuberculosis in Indian Jails,” Enclosure no. 3, Statement B, “Particulars furnished by local Governments of number of cases of tuberculosis admitted to jails and the number contracting the disease after admission,” L/P/1/6/1927, British Library.

119. Government of India, Home Department, despatch to Earl Birkenhead, “Jails,” May 12, 1927, British Library.

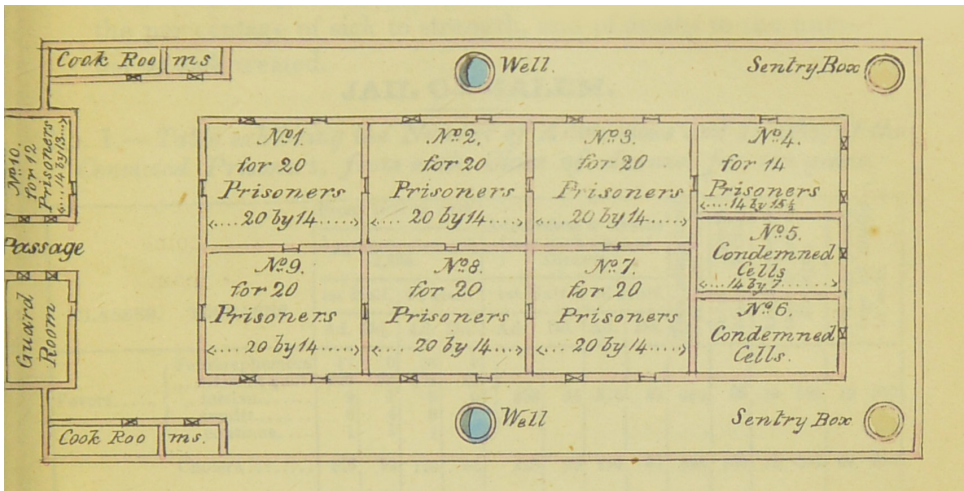


Figure 1.3. Plan for a jail in Salem. Lithograph by B. C. Regel, "Plan of the Jails at Salem, No. 1" (Madras Lithographic Press), in *Report on the Medical Topography and Statistics of the Southern Division of the Madras Army: Compiled from the Records of the Medical Board Office*, 83 (Madras: R. W. Thorpe at the Vepery Mission Press, 1843), British Library.

Even with its incompleteness, we can still learn a few things from the report. For example, prisons in Madras had the highest mortality rate overall (although, again there was no data on tuberculosis).¹²⁰ Burma, which did track tuberculosis, had nearly one thousand cases, a third of which resulted in death.¹²¹ We can also get a sense of scale: from the years 1915 to 1924, 586 prisoners were diagnosed with smallpox, of which 57 died (about one-twelfth of the total number of cases). Over the same period, there were 11,553 recorded tubercle cases among prisoners, resulting in 3,494 deaths (nearly one-third of a much larger population). Even with limited records, it is clear that tuberculosis in prisons was both common and deadly. As the report speculated, "Of those who did not die in prison the vast majority would die later of the disease."¹²²

The most common approach to dealing with tuberculous prisoners was to transfer them to less crowded facilities. But this was taken to be a "palliative"

120. J. B. Smith, "Enclosure, Note by Medical Adviser," March 22, 1926, included in letter from Birkenhead, India Office London, to His Excellency the Governor General of India in Council, May 13, 1926, Public, no. 44, L/P/1/6/1917, British Library.

121. Smith, "Enclosure, Note by Medical Adviser," March 22, 1926, British Library.

122. Smith, "Enclosure, Note by Medical Adviser," March 22, 1926, British Library.

measure; a more “radical cure,” at least according to the Home Department, could only be provided through “an increase of jail accommodation.”¹²³ Then, as now, the proposed solution was to build more jails. With more jails, tuberculous prisoners could be completely segregated from the general prison population. However, many of the provincial authorities felt strongly that the construction of additional jails was either unnecessary or financially impractical.

Ultimately, neither relocation nor segregation were curative measures. J. B. Smith, a medical advisor to the government, questioned the logic of putting people in jail for minor offenses, where they were likely to die of communicable disease. In effect, he argued, jail time was a death sentence. Smith further wondered whether “Indian crime,” as he put it, was in fact the result of chronic illness that made it impossible to work.¹²⁴ In which case, the prison did not simply confine or punish criminals—it produced them (and certainly did not cure them).

Die Free or Die

Evil deeds like poison weeds thrive well in prison air;
It is only what is good in man that wastes and withers there.

—Legislative Council, “Supplementary Estimates”

The function of Indian prisons was a matter of some debate.¹²⁵ Were they machines of reform, or did they instead manufacture the criminality they were meant to punish? Or perhaps their function was largely political: a place to sequester freedom fighters from the general population, to prevent the spread of populist sentiment. Political prisoners were frequently jailed for challenging the authority of the British Crown, deprived of their own freedom while fighting for the freedom of the country.

In 1924, in a case that would grab headlines, the colonial authorities alleged that a group of communist leaders in Cawnpore, in the United Provinces, had been engaged in a conspiracy against the Crown: “to deprive the King Emperor of the sovereignty of British India” by violent, revolutionary

123. Government of India, Home Department, despatch to Earl Birkenhead, “Jails,” May 12, 1927, British Library.

124. Smith, “Enclosure, Note by Medical Adviser,” March 22, 1926, British Library.

125. The quote in the epigraph to this section is from Legislative Council, “Supplementary Estimates,” April 2, 1927, transcript of debate, poem quoted by A. P. Dube, p. 1224, L/P/1/6/1927, British Library.

means.¹²⁶ Among those convicted in the Cawnpore Bolshevik Conspiracy Case, as it came to be known, was Shaukat Usmani, who would spend sixteen years incarcerated in a series of Indian prisons. Usmani was a recognized leader of the communist movement that had begun to emerge in India from the early 1920s. He had even participated in efforts to secure Soviet support for the Indian freedom struggle against the British. During his many years in prison, he maintained his high public profile by running for British Parliament, twice, in constituencies several thousand miles away across an ocean. He viewed his unwinnable campaigns as a means of shedding light on the undemocratic injustice perpetrated by colonial rule.

During his stay at a prison in Dehra Dun, in the foothills of the Himalayas, Usmani developed tuberculosis. News of his condition made its way to Thakur Majit Sing Rathor, a member of the legislative council of the United Provinces. He attempted to have Usmani transferred to a prison in Almora, which enjoyed a rather more salubrious climate in the Kumaon Hills. Rathor's efforts were thwarted, and it was decided that Usmani would be transferred instead to a rather curious institution located in Sultanpur, also in the United Provinces. This institution was described, rather incomprehensibly, as a "Sanatorium-Jail."¹²⁷

The sanatorium: life in the open air.

The jail: life in confinement.

How might a single institution combine such contradictory elements and functions, simultaneously punitive and curative?¹²⁸ This question emerged as the underside of a seemingly innocuous proposal presented to the legislative council of the United Provinces in April 1927. The proposal itself was exceedingly run-of-the-mill: the hiring of a new medical officer for the Sultanpur Prison-Sanatorium.¹²⁹ Rather than considering this new hire, the assembled delegates chose instead to focus on the nature of this seemingly paradoxical institution. How could a prison be curative?

126. Section 121-A, Indian Penal Code.

127. Smith, "Enclosure, Note by Medical Adviser," March 22, 1926, British Library.

128. This is in a sense an iteration of an older question that remains with us today—namely, can prison operate simultaneously as a space of punishment and rehabilitation?

129. Legislative Council, "Supplementary Estimates," April 2, 1927, transcript of debate, p. 1201, L/P/1/6/1927, British Library.

T. H. Symons, the director-general of the Indian Medical Service, had provided a partial answer the year before. The ideal jail-sanatorium, he had explained, would be dry, positioned between two thousand and three thousand feet above sea level, and exposed to the air and sunshine. Climatically, then, it would resemble a sanatorium. But to prevent escape, it would also have to be secure.¹³⁰ In this way, it would resemble a jail. Somehow, the prison-sanatorium would have to combine the openness to nature exemplified by the sanatorium with the level of confinement ensured by the prison.

Given these parameters, the District of Sultanpur struck the legislative council as a rather odd choice to locate such an institution. The nationalist council member Babu Bhagwat Sahai Bedar noted that the *Imperial Gazetteer* described Sultanpur as “dreary” and “bleak,” only “occasionally relieved by mango groves.”¹³¹ It was a district prone to heavy rainfall and flooding. Yet the *Gazetteer* also described Sultanpur as “mild and healthy.”¹³² Many of the council members took exception to this conclusion, noting that Sultanpur’s climate was no better than anywhere else, and undoubtedly much worse.

Those who were present for the debate largely agreed that a prison was no place to seek cure.¹³³ A well-known freedom fighter himself, Pandit Badri Dutt Pande was the delegate from Almora, a hill station known for its salubrious climate and sanatoria. He described his own experience of imprisonment in a jail in Lucknow during the noncooperation movement. The temperatures in the prison, he recounted, rose to 117 degrees Fahrenheit. “For a hill-man, it

130. T. H. Symons, Director-General of the Indian Medical Service, in despatch to Earl Birkenhead, His Majesty’s Secretary of State for India, Enclosure no. 1, Subject: “Overcrowding and Tuberculosis in Indian Jails,” June 17, 1926, L/P/1/6/1927, British Library.

131. Legislative Council, “Supplementary Estimates,” April 2, 1927, p. 1212, L/P/1/6/1927, British Library. The precise wording from the *Imperial Gazetteer* describes the district as “a dreary, bleak, and ravine-cut tract, occasionally relieved by mango trees.” *Imperial Gazetteer of India*, vol. 23, 130. The *Imperial Gazetteer* was a multivolume geographic encyclopedia that contained information about economy, society, climate, and topography. It’s worth mentioning that in the course of these debates, the delegate Baba Bhagwati Sahai Bedar insinuated that the jail-sanatorium had been built in Sultanpur only because of back-room dealings between the government and the delegate from Sultanpur, Surendra Pratap Sahi.

132. *Imperial Gazetteer of India*, vol. 23, 131.

133. In 1925, of the eighty-five tuberculosis patients who had been admitted to Sultanpur, only twenty had been “discharged as cured.” Legislative Council, “Supplementary Estimates,” April 2, 1927, p. 1209, L/P/1/6/1927, British Library.

was tremendously unbearable.”¹³⁴ Spending so long in such a place, he feared, would make cure impossible, even in the hills.

What Sultanpur represented was the continuation of policies of relocation and segregation. But there was little to be found there in terms of cure. For this reason, many of the delegates insisted that tuberculous prisoners be released as soon as possible. Babu Bhagwati Sahai Bedar argued that if a prisoner had tuberculosis, they should be released or sent to the gallows: “In the Sultanpur jail, rest assured the poor man will naturally die.”¹³⁵ The prison was a site of death; the sanatorium, life. Lala Nemi Saran, a Jain delegate from the Bijnor District near Delhi, argued that a hospital and a prison were entirely separate types of institutions.¹³⁶ A sanatorium-prison was still, ultimately, a prison. Architecturally and philosophically, the two could not be reconciled.

As bearers of civilization, and as rulers over a foreign people, the colonial state was thought to have a responsibility for its people, including its prisoners. Disease, and tuberculosis specifically, had exposed the tension between the colonial imperatives to control and to care. Anandi Prasad Dube, a Brahmin barrister from Allahabad, argued that it was the duty of “every enlightened State” to ensure “the proper care and welfare of the citizen from his birth up to his death.”¹³⁷ To confine a tuberculous patient in a place like Sultanpur, Dube argued, was “nothing short of a crime.”¹³⁸ If the prison generated “Indian crime,” as the medical advisor J. B. Smith earlier noted, it was also emblematic of the crime of British colonialism.

Let’s return to Usmani’s would-be defender, Thakur Majit Sing Rathor. He too felt that cure was impossible in prison and insisted that tuberculous prisoners should be freed.¹³⁹ The colonial state had itself set a precedent for release back in 1921, when almost all the tuberculous prisoners being held in

134. Legislative Council, “Supplementary Estimates,” April 2, 1927, p. 1209, British Library.

135. Legislative Council, “Supplementary Estimates,” April 2, 1927, p. 1213, British Library.

136. Legislative Council, “Supplementary Estimates,” April 2, 1927, p. 1214, British Library.

137. Legislative Council, “Supplementary Estimates,” April 2, 1927, p. 1224, British Library.

138. Legislative Council, “Supplementary Estimates,” April 2, 1927, p. 1224, British Library.

139. Legislative Council, “Supplementary Estimates,” April 2, 1927, p. 1203, British Library.

Sultanpur were set free—not out of humanitarian concern but due to worries about overcrowding. And even more recently, Rathor noted, the freedom fighter Subhas Chandra Bose had been released from imprisonment in Mandalay, where he had also fallen ill with tuberculosis. The government had offered to send him for treatment in India or somewhere in Europe.¹⁴⁰ Such munificence should be extended to all tuberculous prisoners, Rathor insisted.

Yet for all his boldness, Rathor stopped short of advocating for release in Usmani's case. Ultimately, Rathor was a politician, and he feared that he would be painted as sympathetic to Bolshevism. Nevertheless, he insisted that as a general principle prison was not the place for those with tuberculosis. "Either such a prisoner should be set at liberty or else, if he is considered to be a danger to the society, he should be sent to Bhowali or Almora."¹⁴¹ Rathor continued, "I insist that the considerations of humanity, the necessity of life require that patients suffering from tuberculosis, whether they are Indian or European ought to be set free. They ought to be allowed freedom of movement, and freedom of life, so that they might try to escape death by undergoing satisfactory treatment, and, if this cannot be done, they ought to be treated at the expense of the State in sanatoria and they should not be kept in jail so long as they suffer from this disease."¹⁴² Openness was not simply about being outside, but about being free. Freedom was manifestly physical, in the sense that it required freedom from confinement by the colonial state (or, in the case of Indian women, freedom from confinement in the zenana).¹⁴³ But for these political prisoners, freedom was also more than physical, in that it required the removal of the imperial yoke. In this sense, the freedom required for cure was an intensely political matter.

140. After a brief stay in Calcutta, Bose traveled to Europe. He made a stop in Germany to visit Jawaharlal Nehru after his wife, Kamala, died while seeking treatment at a sanatorium, as described in chapter 2.

141. Legislative Council, "Supplementary Estimates," April 2, 1927, p. 1203, British Library.

142. Legislative Council, "Supplementary Estimates," April 2, 1927, p. 1204, British Library.

143. The analogy between prison and zenana was quite explicit, as parallel architectures of confinement and unfreedom marked by gendered differences. Inderpal Grewal puts it quite bluntly when she writes, "within European colonial discourse," the zenana "signified female incarceration." Grewal, *Home and Harem*, 200.

The Goldilocks Principle

Was the sanatorium a site of freedom? It was certainly a complicated meeting place where unusual friendships might develop—say, between a Sikh gentleman from Gwalior and a destitute Englishman—but sanatoria were never completely severed from the constraints of life outside.¹⁴⁴ Divisions of religion, caste, class, gender, and race found their way into the very design of sanatorium life in early twentieth-century India. In Almora, a hill station in the United Provinces, the Church of Scotland had established a sanatorium run by women missionaries exclusively for European and Anglo-Indian Christian women.¹⁴⁵ In the Madras Presidency, the Union Mission Tuberculosis Sanatorium in Madanapalle set aside beds exclusively for the use of European Christians.

This preference for Christian patients reflected the high level of investment in sanatoria by missionaries. We might look, for example, to a proposal for a sanatorium in Kashmir, developed by Dr. Arthur Neve of the Mission Hospital in Srinagar. A deeply religious man with a long mustache and a thin patch of hair on his balding crown, Neve was a medical missionary who, along with his brother Ernest, had devoted his life to providing healing alongside spiritual awakening. Neve was known for delivering sermons to his captive Hindu patients, bedridden and unable to escape his evangelism.

Neve was also recognized for his expertise on tuberculosis. He envisioned for Kashmir a sanatorium with separate blocks for Hindus and Muslims, subsidized beds for the poor, and more expensive beds for the wealthy. A Brahmin cook would be needed to provide food for high-caste Hindu patients. Like the maharaja of Patiala, he too advocated for the building of a separate “home for dying consumptives,” which would house “advanced, and practically incurable cases.”¹⁴⁶ When patients died in the sanatorium, he explained, it gave the entire

144. See the critiques of romantic visions of the sanatorium as enclosed social spaces in Bryder, *Below the Magic Mountain*; Condrau, “Who Is the Captain of All These Men of Death”; Condrau, “Beyond the Total Institution.”

145. The sanatorium at Almora, in the United Provinces, originally began as the home of the London Missionary Society. It was established in 1908 for the treatment of European and Anglo-Indian Christian women.

146. Arthur Neve, “Tuberculosis in Kashmir,” September 2, 1916, enclosed in letter from the Superintendent Surgeon, Jammu and Kashmir State Hospitals, Gulmarg, to the First Assistant to the Resident in Kashmir, no. 1529, Subject: Sanatorium for Tuberculosis, “Establishment of Sanatoria for Treatment of Patients Suffering from Tubercular Diseases,” *Proceedings of the Home Department*, May 1912, no. 46, British Library.

institution “a bad name.”¹⁴⁷ In this way, the sanatorium was porous to the social world outside its walls, staunchly upholding its religious and economic divisions.¹⁴⁸

Neve penned his proposal for a sanatorium in Kashmir in response to a circular from the Home Department that wound its way around courtly *darbars* and government offices across the country. In the wake of the sanatorium experiment at Dharampur, the circular called for the building of sanatoria in each of the provinces. The circular referred specifically to incipient reports of an increase in tuberculosis in Indian cities as well as in the larger towns. Sanatorium treatment, it was thought, might offer the “only hope of cure.”¹⁴⁹ The circular further suggested that provincial governments look to public charity or private philanthropy to fund their efforts.

In general, the responses from the provincial governments drew on five forms of excuse:

1. Tuberculosis was not a serious problem. Coorg, for example, had no large towns where tuberculosis might thrive.¹⁵⁰ In the Central Provinces, many civil surgeons had only a vague “impression” that tuberculosis was increasing, but they lacked any real “proof.”¹⁵¹

147. Neve, “Tuberculosis in Kashmir,” September 2, 1916, *Proceedings of the Home Department*, British Library.

148. This is a point made by numerous historians of tuberculosis, who have argued against the otherworldliness of the sanatorium envisioned by Thomas Mann in his iconic *Magic Mountain*, as well as in the total institution concept advocated by Goffman. If the sanatorium did manage to break down social norms, it was only always temporary, as the patient was expected to eventually return to society.

149. H. C. Woodman, Esq., Additional Deputy Secretary, Home Department, Government of India, “Prevalence of Tuberculous Diseases in India: Establishment of Well Equipped Sanatoria in Different Parts of India for the Treatment of Tuberculous Patients,” in *Proceedings of the Home Department*, June 1910, British Library. According to Niels Brimnes, the circular was initiated by the director of the Indian Medical Services, Sir Pardey Lukis. See Brimnes, *Languished Hopes*, 35.

150. Major W. G. Grey, Secretary to the Chief Commissioner of Coorg, to the Secretary to the Government of India, Home Department, “Establishment of Sanatoria for Treatment of Patients Suffering from Tubercular Diseases,” June 14, 1910, no. 1280, *Proceedings of the Home Department*, May 1912, no. 41, British Library.

151. Lieutenant-Colonel R. P. Colomb, Second Secretary to the Chief Commissioner, Central Provinces, to the Secretary to the Government of India, Home (Medical) Department, “Establishment of Sanatoria for Treatment of Patients Suffering from Tubercular Diseases,” October 31, 1910, no. 1673-VI-23-3, *Proceedings of the Home Department*, May 1912, no. 47, British Library.

2. There was no money. In the Northwest Frontier, it was thought that funds could be better spent on education and sanitary reform. In Bengal, the hospitals were in desperate need of new equipment.¹⁵² In Bombay, the public had already built two sanatoria for the poor and middle classes: one in Poona, for Hindus, and the other in Nasik, for Parsis.¹⁵³ In Burma, provincial funds had already been committed to laboratories, surgical equipment, operating theaters, a Pasteur Institute, a lunatic asylum, and a new general hospital.
3. Patients were unwilling to leave their homes and their families behind to live in a sanatorium.
4. The climate was largely unsuitable for effective sanatorium treatment. In Coorg, it was too damp.¹⁵⁴ In the Northwest Frontier, it was reported that Hazara District had a favorable climate during one season, but that patients would have to migrate elsewhere during the off-season.¹⁵⁵ In Punjab, the climate was thought to be so pleasant that sanatoria were unnecessary; people could simply live outside. The climate was either too salubrious or not salubrious enough.
5. Sanatoria didn't really work, so there was no reason to build them.

With few exceptions, the responses from the provincial governments drew from these five forms of excuse to explain their inaction. Even Neve balanced his ambitious proposal with his insistence that the people of Kashmir would

152. H. Wheeler, Secretary to the Government of Bengal, Municipal (Medical) Department, to the Secretary to the Government of India, Home Department, "Establishment of Sanatoria for Treatment of Patients Suffering from Tubercular Diseases," August 21, 1911, no. 1740-Medl., *Proceedings of the Home Department*, May 1912, no. 50, British Library.

153. L. Robertson, Secretary to the Government of Bombay, General Department, to the Secretary to the Government of India, Home Department, "Establishment of Sanatoria for Treatment of Patients Suffering from Tubercular Diseases," August 18, 1910, no. 3970, *Proceedings of the Home Department*, May 1912, no. 44, British Library.

154. Grey, "Establishment of Sanatoria for Treatment of Patients Suffering from Tubercular Diseases," June 14, 1910, British Library.

155. Mr. W. R. H. Merk, Chief Commissioner and Agent to the Governor-General, North-West Frontier Province, to the Deputy Secretary to the Government of India, Home (Medical) Department, Simla, includes letter forwarded from Lieutenant-Colonel A. L. Duke, I.M.S., Administrative Medical Officer, North-West Frontier Province, no. 559-C, September 3, 1910, "Establishment of Sanatoria for Treatment of Patients Suffering from Tubercular Diseases," September 15, 1910, Nathiagali, no. 1724-N, *Proceedings of the Home Department*, May 1912, no. 45, British Library.



Figure 1.4. Muthu's sanatorium at Tambaram, just south of the city of Madras (1939). From "Origins of Tambaram Sanatorium," *The Hindu*, December 20, 2014, <https://www.thehindu.com/features/downtown/origins-of-tambaram-sanatorium/article6710929.ece>.

never pay for a sanatorium. The higher-ups in the Kashmiri government politely concurred.¹⁵⁶

The bottom line was clear: the colonial government wanted to avoid paying for sanatoria. Prior to the 1920s, leprosy and malaria were the diseases that received the greatest financial support and attention in the colonies, especially in India. Although the National Insurance Act of 1911 provided free sanatorium treatment for the working class in Britain, the Crown was loath to add tuberculosis to its colonial burden. Sanatorium treatment was an expensive affair, requiring the construction of new infrastructure and the support of patients over long periods of treatment. After the passage of the Montagu-Chelmsford reforms of 1919, which further devolved responsibility for public health measures and spending to the provincial level, the problem of tuberculosis among the native population was left in the hands of philanthropic organizations like

156. Superintendent Surgeon, Jammu and Kashmir State Hospitals, Gulmarg, to the First Assistant to the Resident in Kashmir, Subject: Sanatorium for Tuberculosis, "Establishment of Sanatoria for Treatment of Patients Suffering from Tubercular Diseases," September 2, 1916, no. 1529, *Proceedings of the Home Department*, May 1912, no. 46, British Library.

the Dufferin Fund, medical missionaries, and private individuals: for example, David Chowry Muthu.¹⁵⁷

A Model Colony

In the early 1920s, Muthu traveled around India to assess the severity of the tuberculosis situation. After concluding his journeys, he, like Lankester before him, submitted a confidential report of his findings to the Government of India. Throughout the country, Muthu noted, there were no more than eighteen tuberculosis homes and sanatoria.¹⁵⁸ He urged the government to support the establishment of additional sanatoria.¹⁵⁹

What Muthu envisioned for India was more radical than the sanatoria that he had operated in Britain, which combined elements from the German open-air sanatorium with the Swiss emphasis on high altitudes and the British focus on graduated exercise and occupational therapy. Traditional sanatorium therapies, he contended, were inadequate in the Indian context, unless they were part of a broader garden colony:

In the garden settlement there would be a sanatorium for early cases. In another part, houses or bungalows would be reserved for those suspected or threatened with tuberculosis. Still in another part, children of tuberculous parents or those in the pretuberculous stage would be looked after and placed under the best hygienic conditions and provided with an open-air school. In another place, convalescent or ex-patients would be accommodated with their families and be kept under medical supervision, and, if necessary, trained in some outdoor occupation. A public hall would be found useful for propaganda work, for giving lectures on hygiene and health subjects, and as a place of recreation and entertainment. A dairy farm with cows kept under ideal sanitary conditions would complete the equipment

157. See Brimnes, *Languished Hopes*, 26. See also Harrison, *Public Health in British India*. The Dufferin Fund, formally known as the National Association for Supplying Female Medical Aid to the Women of India, was established in 1885 by Lady Dufferin, the wife of a viceroy of India. The fund provided tuition for British women to acquire medical education to serve as doctors, midwives, and nurses in India and was an important contributor to the spread of Western medicine in India.

158. Muthu, "The Problem of Tuberculosis in India," 192.

159. A reference to this report can be found here: Associations and Institutions, *British Journal of Tuberculosis*, 31. Unfortunately, I was unable to locate a copy of the actual report.

of the garden colony, whose grounds would be laid out with spacious walks and broad avenues, so as to give the picturesque appearance of a health resort.¹⁶⁰

Muthu's vision laid bare the utopianism of his approach to tuberculosis treatment. In India, as well as in Britain, the garden had long been a space of elite pleasure and leisure, as well as botanical research. In eighteenth-century Britain, the emergence of urban gardens for the people was a response to the growing sense that rapid population growth in cities had led to a concomitant rise in disease, including tuberculosis. Urban gardens and parks were attuned both to sanitation and to "moral and political health," providing a recreational alternative to drinking and gambling, while simultaneously providing evidence of good governance.¹⁶¹ Gardening, particularly in its relation to botanical and agricultural sciences, was central to imperial efforts in India. The quest for botanical knowledge "guided the exploitation of exotic environments and made conquest seem necessary, legitimate, and beneficial."¹⁶² Underlying the movement of botanical specimens and ideas between metropole and colony was an "almost sacred" investment in improvement—not only the improvement of agricultural practices, but also the refinement of the aesthetic ideals of the masses.¹⁶³ Closer at hand, Muthu undoubtedly drew inspiration from the Theosophical Garden in nearby Adyar, which itself borrowed from the gardening practices of landed elites, both European and Indian.¹⁶⁴

As he imagined it, the sanatorium was only one small part of the larger pedagogical and curative functions of the garden colony.¹⁶⁵ The sanatorium would be hooked into a network of institutions including urban dispensaries, rural health villages for ex-patients, and open-air schools. "Fresh air, food, and rest help to recuperate the patient's failing energies and strengthen the soil, so that Nature may begin her beneficent work," wrote Muthu.¹⁶⁶

160. Muthu, "The Problem of Tuberculosis in India," 192.

161. Drayton, *Nature's Government*, 181.

162. Drayton, *Nature's Government*, 181.

163. In 1838, for example, Kew Gardens opened to the public in an effort to educate, refine, and increase the "rational pleasure" of the working class. See Drayton, *Nature's Government*, 156.

164. Srinivas, *A Place for Utopia*, 74.

165. Notably, gardens in South Asia have come in many forms: pleasure gardens, sacred gardens, shade gardens, fruit gardens, rock gardens, herb gardens, wild gardens, mazes, and more recently, zoological gardens, botanical gardens, and sports parks. See Srinivas, *A Place for Utopia*.

166. Muthu, "Some Points in the Treatment of Pulmonary Tuberculosis," 955.

Yet not all nature was therapeutic. Within the medical topography of colonial India, swamps were miasmatic, productive of disease rather than cure. Jungles could be sites of productive extraction, but were equally places of terror and adventure—of the safari—with the attendant dangers of wild animals. The agricultural field was a site of labor, and given its relationship to the countryside, potentially therapeutic as well.

But what the sanatorium garden represented was a form of ordered, controlled nature, one that could serve as a curative milieu for tuberculosis patients.¹⁶⁷ In contrast to the industrial city, the sanatorium and its bungalows were akin to a small, sparsely populated village that opened up onto nature. In its pedagogical role, the garden colony was a model for society as it should be, as well as an image of society as it once was, intimately tied to nature. The sanatorium and the broader garden colony were intended as a paradigm for a vitalizing form of living, a mode of architecture and social life to which the city could aspire.¹⁶⁸

This valorization of nature in the philosophy of the sanatorium movement, particularly in Muthu's version of it, might be productively understood alongside the importance that Gandhi gave to villages, as well as the modernist vision of the Scottish biologist and urban planner Patrick Geddes, who arrived in India in 1914. Geddes had developed a vitalist, "bio-centric philosophy of the urban," one that was inspired in part by his experience of observing tuberculosis patients in India "sleeping on the verandah or sitting on the *chabutra* (raised platform) and not simply traveling to a faraway mountain resort."¹⁶⁹ Through the "reunion of town and country, man and nature," Geddes thought it was

167. The garden was similarly prominent in an important parallel institution to the sanatorium, the asylum. Critically, however, the asylum was organized around confinement rather than openness. See Ernst, "Asylum Provision and the East India Company in the Nineteenth Century"; Ernst, *Mad Tales from the Raj*. For an argument that the sanatorium shared more in common with asylums and health resorts than with hospitals, see Bates, *Bargaining for Life*, 5.

168. As Smriti Srinivas has argued, utopianism was central to city planning in early twentieth-century South Asia. "Utopias are realized . . . in attempts to renew or heal 'Life,' whether through gardens or public health, and in the revitalization of knowledge and practice." The garden colony in particular provided what she calls a design for "cultural alternatives and futures," as well as a "critique of British imperialism and its spatial formations." Srinivas, *A Place for Utopia*, 4, 6.

169. Srinivas, *A Place for Utopia*, 14, 29. On the influence of the sanatorium's curative architecture on modernism, see Campbell, "What Tuberculosis Did for Modernism."

possible to live life “more abundantly.”¹⁷⁰ He drew inspiration from the botanical gardens of England and from Mughal gardens that had been preserved by their British inheritors.¹⁷¹ As Smriti Srinivas has argued, Geddes understood that “pleasure and horticulture are seamlessly interwoven with the knowledge of disease and its treatment.”¹⁷²

In its curative role, Muthu’s garden colony exhibited a “mimetic therapeutic logic,” seeking to “reproduce the qualities of (an apparently disease-free) preindustrial and preurban existence—an existence therefore in accordance with Nature’s law.”¹⁷³ The logic of the sanatorium, and the garden colony more generally, was to bolster the vitality of the body so that it might move through a temporary state of disease and return to a healthy condition—a kind of autorestitution effected by nature. Within the garden colony, disease might once again be curative rather than pathological. Such an autorestitution itself was a kind of freedom—not a freedom from, for example, confinement, but rather a positive freedom, the freedom to live, and potentially to live without relapse, as the body’s previously exhausted vital capacities could be restored.

Critically, sanatorium treatment was not simply a prescription for fresh air. Muthu claimed that the most successful treatment for tuberculosis was a highly structured, personalized regimen that removed the patient from the pestilence of the city and properly disciplined both body and mind, while increasing vital energies. Returning to the city could be dangerous. For Muthu, a few weeks in the cool, fresh air of a hill station—the favored retreat of British military men, governors, and missionaries—was not only inadequate but positively iatrogenic. A little bit of cure, without the supervision of a doctor, was much more dangerous than no cure at all. As Muthu explained, a visibly broken door is opened and closed much more gently than one that appears intact but has been haphazardly patched up.

Muthu claimed that the sanatorium superintendent should behave like the captain of a ship, “knowing that in his right steering lie the welfare and the safety of those who are slumbering under his care and protection.”¹⁷⁴ In this sense, the superintendent was a kind of sovereign, directing the choreography

170. Srinivas, *A Place for Utopia*, 35.

171. Srinivas, *A Place for Utopia*, 59. On the British preservation of Mughal gardens, see Ali and Flatt, “Introduction.”

172. Srinivas, *A Place for Utopia*, 40.

173. Gordon, *Literary Modernism, Bioscience, and Community*, 69.

174. Muthu, *Pulmonary Tuberculosis and Sanatorium Treatment*, 109.

of the garden colony so as to effect cure for its inhabitants.¹⁷⁵ Rather than a return to a pristine nature, the garden, with its bovine and picturesque views and broad walkways, required the production of a kind of tamed or artificial nature.¹⁷⁶

Never short of metaphors, Muthu also argued that the sanatorium director should be like a teacher, ensuring “patients are educated in right thinking and right living.”¹⁷⁷ This pedagogical function was one of the primary purposes of sanatorium treatment in the garden colony.¹⁷⁸ As a model for how life should

175. The choreography of the superintendent might be productively compared to the choreography of pre-Sultanate royal gardens. As Daud Ali has noted, such gardens were not meant to represent nature so much as society. It was a projection of the social order, and the dramas that unfolded in the garden mirrored broader social dramas in miniature. See Ali, *Courtly Culture and Political Life in Early Medieval India*, 231.

Daud Ali has also demonstrated how royal gardens could operate by a kind of mimetic efficacy, as the power of the king to cause flowers (via his gardener) to continue to bloom out of season (*akala*) exemplified his sovereign power over nature. Such a wonder or spectacle made the garden into the inverse of nature, a demonstration of the king’s power to violate the natural order and produce his own law. See Ali, “Botanical Technology and Garden Culture in Somesvara’s *Manasollasa*,” 49.

In this sense, the garden was also a way for the sovereign to represent his power to himself. The garden was a projection of a properly ruled realm, a space where the realm could be reflected upon, a physical space that was at once a “mental and speculative domain.” See Ali and Flatt, “Introduction”; Ali, “Gardens in Early Indian Court Life.”

176. Such an approach to the garden has a long history in India. As Daud Ali has written, early Indian gardens “were not perceived as ‘wild,’ ‘untamed’ or ‘pristine’ nature, but instead, carefully constructed and highly supplemented places. This ‘artificial’ character of gardens suggests that the natural world, to the extent that it was embodied in the garden, was not seen *in opposition* to human manipulation and artifice. . . . [There was] no Romantic concept in the early sources of the garden as a ‘respite’ from society and city.” Ali, “Gardens in Early Indian Court Life,” 223. Such gardens were “highly manipulated and ornamented places,” described in Gupta-era handbooks for poets as “constructed” and “artificial” (233).

177. Muthu, *Pulmonary Tuberculosis and Sanatorium Treatment*, 108–9.

178. According to Flurin Condrau, historians of tuberculosis have viewed this pedagogic mission in a cynical light, as evidence that the sanatorium was less about cure and more about discipline, control, and the reconstruction of subjectivity. The issue for me is that such a view allows historians to retroactively determine curative efficacy rather than understanding efficacy itself as a historical artifact. See Condrau, “Beyond the Total Institution,” 73.

As Michael Worboys has pointed out in his essay in the same volume, similar debates took place in the first decade of the twentieth century among medical

be lived, the sanatorium and garden colony were also paradigms for how society should be reorganized.

In the early 1920s, there were only three sanatoria in the entirety of the Madras Presidency—an area with a population that was equivalent to the entirety of Great Britain and Ireland—located in Madanapalle, Conoor, and Mysore. Muthu looked to add to that number. In 1926, he acquired 250 acres of land from the Madras government, located on a slope of a hill just south of the city. He named his project Tambaram, after the *taluk* in which it was located.¹⁷⁹ The foundation stone for Tambaram Sanatorium was laid in 1927 by C. P. Ramaswami Iyer, a lawyer and prominent member of the Executive Council of the Governor of Madras.¹⁸⁰ In April of the following year, the twelve-bed sanatorium (out of which four had already been filled) was properly inaugurated by the Indian politician and ambassador V. S. Srinivasa Sastri.¹⁸¹

Along the lines of his utopian vision, Muthu attempted to craft his Tambaram estate into a comprehensive garden colony. The problem of tuberculosis would prove to be an incitement to his imagination of curative utopia, one that would ideally spread beyond the sanatorium to the cities, towns, and villages of India and provide a new template for living based on a kind of return to nature. His cure was, if nothing else, nostalgic: a return to an idealized Indian past made possible by his own return from Britain. About halfway into

experts, some of whom argued that the sanatorium's role was as much educational as it was curative. It's important to consider, however, whether the curative function of the sanatorium could be so easily separated from its pedagogic function. For Muthu, pedagogy was clearly an aspect of curative intervention. See Worboys, "Before McKeown," 157. On the importance given to the pedagogical mission of the sanatorium, see also Worboys, "The Sanatorium Treatment for Consumption in Britain."

179. A taluk is a geographic unit of administration in India, smaller than a district but larger than a village.

180. A cross-section of Madras notables witnessed the laying of the foundation stone, including the businessman Muthiah Chettiar, the former minister Aneppu Parsuramdas Patro, High Court justices M. David Devadoss and Tiruvenkatachiar, and A. Rangaswami Iyengar, the editor of the *Hindu*.

181. Those present at the inauguration included Minister for Development Dewan Bahadur R. N. Arogyaswami Mudaliar, Dr. P. Subbaroyan, Justice Party member O. Kandaswami Chetty, and Dr. A. Lakshmi pathy, a key figure in the Ayurvedic revival in south India, who in 1926 founded a "health village" outside Madras named Arogya Ashram. Muthu asked Gandhi to compose a note for the occasion, but Gandhi politely declined, explaining that if he indulged such requests he would never have time for anything else. Muthu, "The Problem of Tuberculosis in India," 193.

the Tambaram project, however, Muthu ran out of money.¹⁸² He turned to the Madras government as well as to the Indian public for additional funds.¹⁸³ But as we already know, sanatoria in India were a difficult sell. Muthu came up empty-handed. His model of Indian society as it could be—rather, as it should be, and perhaps, as it once was—remained a dream unrealized.

182. His original plans were more ambitious: “six wards for men and six wards for women, besides administration offices, quarters for visitors, for post-graduate courses, etc.” He only managed to complete about “half the sanatorium, with three wards on each side of the administrative building,” “verandahs for two patients,” and “quarters for medical officers and nurses.” Muthu, “The Problem of Tuberculosis in India,” 193.

183. Muthu, “A General Survey of Tuberculosis in India,” 24.

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