

PRASHANT KIDAMBI
MANJIRI KAMAT
RACHEL DWYER
(editors)

Bombay before Mumbai

Essays in Honour of Jim Masselos



HURST & COMPANY, LONDON

First published in the United Kingdom in 2019 by
C. Hurst & Co. (Publishers) Ltd.,
41 Great Russell Street, London, WC1B 3PL
© Prashant Kidambi, Manjiri Kamat, Rachel Dwyer
and the Contributors, 2019
All rights reserved.
Printed in India

The right of Prashant Kidambi, Manjiri Kamat, Rachel Dwyer
and the Contributors, 2019 to be identified as the author of
this publication is asserted by them in accordance with the
Copyright, Designs and Patents Act, 1988.

A Cataloguing-in-Publication data record for this book
is available from the British Library.

ISBN: 9781787381483

This book is printed using paper from registered sustainable
and managed sources.

www.hurstpublishers.com

City of Gold, Urbs Prima in Indis, Maximum City: no Indian metropolis has captivated the public imagination quite like Mumbai. The past decade has seen an explosion of historical writings on the city that was once Bombay. This book, featuring new essays by its finest historians, presents a rich sample of Bombay's palimpsestic pasts. It considers the making of urban communities and spaces, the workings of power and the nationalist makeover of the colonial city.

In addressing these themes, the contributors to the volume engage critically with the scholarship of a distinguished historian of this frenetic metropolis. For over five decades, Jim Masselos has brought to life with skill and empathy Bombay's hidden histories. His books and essays have traversed an extraordinarily diverse range of subjects, from the doings of the city's elites to the struggles of its most humble denizens. His pioneering research has opened up new perspectives and inspired those who have followed in his wake. *Bombay before Mumbai* is a fitting tribute to Masselos's enduring contribution to South Asian urban history.

CONTENTS

<i>Acknowledgments</i>	xiii
<i>List of Illustrations</i>	xv
<i>Note on Contributors</i>	xix

1. Introduction	<i>Prashant Kidambi</i>	1
-----------------	-------------------------	---

PART I COMMUNITY

2. Mohammad Ali Rogay: Life and Times of a Bombay Country Trader	<i>Murali Ranganathan</i>	15
3. Parsis and Bombay City: Community and Identity in the Nineteenth Century	<i>Jesse S. Palsetia</i>	35
4. The Great Persian Famine of 1871, Parsi Refugees and the Making of Irani Identity in Bombay	<i>Simin Patel</i>	57
5. Bombay's European Community during the Interwar Period	<i>Douglas E. Haynes</i>	77

PART II SPATIAL TEMPLATES

6. Reading Social Spaces: The Life of the Bombay Theatre, 1770–1843	<i>Erica Wald</i>	99
7. Selling Home: Marketing Home Furnishings in Late Colonial Bombay	<i>Abigail McGowan</i>	117
8. Social Geographies of Bombay's Sex Trade, 1880–1920	<i>Ashwini Tambe</i>	147

CONTENTS

PART III POWER

9. Worthy Objects of Charity: Government, Communities and Charitable Institutions in Colonial Bombay *Preeti Chopra* 171
10. Proletarian Bodies and Muslim Festivals: Disciplining Pleasure in Colonial Bombay *Nile Green* 195
11. 'A Powerful Weapon for the Employers?': Workers' Housing and Social Control in Interwar Bombay *Vanessa Caru* 213

PART IV NATIONALISM

12. The Transnational Career of the 'Indian Edison': Shankar Abaji Bhisey and the Nationalist Promotion of Scientific Talent *Dinyar Patel* 239
13. Civil Disobedience and the City: Congress and the working classes in Bombay, c. 1930–32 *Robert Raman Rahman* 263
14. The Politics of Business: The Congress Ministry and the Muslim League in Bombay, 1937–39 *Danish Khan* 285

PART IV AFTERWORD

15. Remembering Bombay: Present Memories, Past Histories *Jim Masselos* 303
- Appendix* *J. C. Masselos's Publications* 313
- Notes* 325
- Bibliography* 395
- Index* 411

THE TRANSNATIONAL CAREER OF THE
'INDIAN EDISON'

SHANKAR ABAJI BHISEY AND THE
NATIONALIST PROMOTION OF SCIENTIFIC TALENT

*Dinyar Patel**

In 1920, a Maharashtrian inventor from Bombay, Shankar Abaji Bhisey, introduced the 'spirit typewriter' to the world. This was no ordinary typewriter. A round disk with unmarked keys along its circumference

* I must thank a few individuals for assisting me with this article. Murali Ranganathan provided his valuable comments on this paper and explained to me some of the technical aspects of typesetting. Zubin Mulla let me borrow a copy of a rare Marathi book, *Doktar Bhise: vyakti ani karya*, from the library of the Tata Institute of Social Sciences, Mumbai. Parinaz Madan, my ever-helpful wife, patiently helped me with reading and translating portions of this book, since she notably disproves the stereotype that all Parsis possess deplorable Marathi skills. This article grew out of a short chapter introduction on Bhisey that I wrote for *Dadabhai Naoroji: Selected Private Papers* (Oxford: Oxford University Press, 2016), which I co-edited with S.R. Mehrotra. The chapter includes full transcripts of many of the letters between Bhisey and Naoroji that have been cited here.

BOMBAY BEFORE MUMBAI

and a roll of ticker tape latched to its side, the machine was intended for correspondence of a decisively paranormal nature. As *Popular Science Monthly* noted, it was ‘a new sort of ouija-board’, a device for communicating with the dead, which was immune to any sort of human interference. Bhisey, who had perfected the machine in New York City, where he had resided for the past several years, offered further explanation in a detailed application he submitted to the United States Patent Office. By employing the unmarked keys, a concealed ribbon of type, various pegs, and a triangular table which moved ‘under whatever influence it is that actuates a ouija-board’, the typewriter could transmit ‘spiritual communications’ that were ‘free of the direct or subconscious influence of the person or persons using the device’. *Popular Science Monthly* declared it to be ingenious. However, neither the magazine’s praise, nor any possible supernatural intervention, could spare the spirit typewriter from its ultimate fate. It joined a long list of Bhisey’s inventions—some path-breaking, some downright bizarre—that failed commercially and have been wholly forgotten today.¹

Why was a Maharashtrian inventing an improved ouija board in New York during the early 1920s? The answer, as it can be expected, is long and complex. Shankar Abaji Bhisey or S.A. Bhise (1867–1935),² who grew up in Bombay’s congested Bhuleshwar precinct and passed his final days in a leafy American suburb abutting The Bronx, was a genius inventor whose career unfolded in three different continents. In his lifetime, he was known as the ‘Indian Edison’ and the ‘Pioneer Indian Inventor’. He produced an electric sign lamp for advertising purposes, kitchen gadgets, a flush toilet, and a telephone, among other devices. Reviewers in Great Britain and the United States heaped praise on his creations—all the more extraordinary, since, they blithely noted, ‘the mechanical inventive faculty’ was ‘not a natural heritage’ amongst Indians.³ Bhisey was, however, spectacularly unsuccessful in commercially marketing most of his devices. For this reason, he remains a largely unknown figure in the history of Indian science and technology.

By naming his ouija board the ‘spirit typewriter’, Bhisey might have been making an allusion to the inventions that, fifteen years beforehand, had propelled him to the height of his fame. Labouring in London workshops at the turn of the twentieth century—and experimenting with communications technologies for mere mortals rather than

THE TRANSNATIONAL CAREER OF THE 'INDIAN EDISON'

spirits—Bhisey perfected a remarkably efficient mechanical typewriter. The apparatus eventually morphed into the Bhisotype, a typesetting machine that was poised to transform the printing industry. Its inventor shuttled between London, Bombay, and New York in order to woo investors and commercially market the device, consorting with the Tatas in India as well as major British and American firms. This alone was a remarkable development. The Bhisotype demonstrated the widening multinational scope for financing technological development, one where Indian firms competed for investment alongside more established western businesses. Bhisey nudged along a new, triangular network between the premier commercial centres of India, the United Kingdom, and the United States. Throwing aside many of the shackles of the colonial economy, Bombay became an increasingly significant stakeholder in the global exchange of capital and technology.

The Bhisotype, unfortunately, met the same inglorious fate as the spirit typewriter. However, there is much more to this story than the machine's commercial failure. By exploring the Bhisotype's genesis and financing, we can identify an important and hitherto unexplored link that existed between Indian inventive talent and the country's political elite. As a struggling young inventor, Bhisey required significant financial support for his experiments and research. In Bombay and abroad, he found such support amongst leaders of the early nationalist movement, many of whom enjoyed close business connections or possessed substantial business experience. Eventually, several Indian nationalist leaders and their British allies—most notably Dadabhai Naoroji, Gopal Krishna Gokhale, and Henry Hyndman—provided Bhisey with the financial resources necessary to continue with his inventions. These leaders had numerous motivations for doing so, ranging from a desire to support Indian talent to more straightforward wishes for future profit. By actively taking an interest and a financial stake in Bhisey's career, they demonstrated two dynamics at work. Firstly, the worlds of Indian finance and early nationalism were inextricably connected, especially in and through Bombay. Secondly, early nationalists and their British allies could cooperate on a range of India-related activities beyond the domain of high politics—including support for a promising young inventor who would eventually try to perfect the ouija board.

There is still a wider significance to Bhisey's story. It adds a new dimension to literature on the history of Indian science and technology,

BOMBAY BEFORE MUMBAI

and especially to print and type technology in the country.⁴ Scholars such as David Arnold have noted the marked growth of Indian involvement in international science from the 1890s through the First World War, including the ‘advent of an Indian scientific community’ primarily based in Calcutta.⁵ But little has been written on inventions from this time period—and hardly anything is known about self-trained inventors such as Bhisey, who operated outside of the formal institutions that propelled science and technology in Bengal.

Saliently, too, in Bhisey’s career we can identify many of the broad themes that animate Jim Masselos’s work on Bombay. ‘It is virtually impossible to write about the city without acknowledging the hovering presence of urban transition’, Masselos has noted.⁶ These transitions and transformations influenced Bhisey in different ways: pushing him to devise gadgets in response to particular urban changes, or seeking support from new constellations of business and political elites. Likewise, Bhisey’s inventions were supported by the same cross-communal networks that sustained Bombay’s civic life, the ‘integrative pulls’ of interests, ideas, and money.⁷ Indeed, by relocating to London and then New York, Bhisey helped internationalise these networks beyond the *urbs prima in Indis*. But it is in Bombay that we shall begin.

* * *

From an early age, Bhisey, born into the prosperous and influential Chandraseniya Kayastha Prabhu community, evinced great scientific curiosity and talent. He was a keen reader of *Scientific American*. ‘I owe everything to the mechanical education I received from that American magazine,’ he told a New York reporter later in his life. ‘I simply had no facilities for studying what I wanted to in Bombay.’⁸ Bhisey’s father, a judicial official, encouraged his son to follow him into the legal profession; Bhisey spurned his wishes and instead took a job as a lowly clerk in the Bombay accountant-general’s office. The position gave Bhisey a measure of financial independence, something he evidently prized. A brief biographical article published in 1909 noted that, having ‘determined from his boyhood to support himself’, Bhisey ‘glories in the fact that since his school and student days he has been no financial burden upon his father in carrying out his scientific researches.’⁹

The job also gave him time to pursue his real passions. He founded and became the president of a scientific club in Bombay which pub-

THE TRANSNATIONAL CAREER OF THE 'INDIAN EDISON'

lished its own journal, *Vividh Kala Prakash*. Soon afterward, he gained the moniker of 'Professor' among his admirers (although he possessed no college education). Bhisey continued to tinker with various mechanical inventions in the family home in Ramwadi, off Dadiseth Agiary Lane in Bhuleshwar. By his late twenties, he was churning out a dizzying variety of gadgets and mechanisms. Many of these inventions reflected the various cultural, commercial, and technological transformations sweeping Bombay around the turn of the century: the city's expanding suburban railway network, changing fashion norms, or the growth of mechanisation and standardisation within retail stores. In 1895, for example, he applied for a patent for 'Professor Bhisey's Automatic Station Indicator', a contraption that would indicate the next train station for passengers travelling in a railway carriage. Two years later, Bhisey filed a patent application for an improved method for tying *pagdis* or turbans.¹⁰ Halfway across the world in the United States, Bhisey's favourite magazine from childhood, *Scientific American*, caught wind of the Maharashtrian inventor's devices. The journal profiled his design for a non-refillable store bottle, 'intended to prevent the refilling of bottles or the adulteration of liquids contained in the bottles', as well as an 'ingenious' weighing machine for grocery stores, which accurately weighed and distributed quantities of powdered goods such as sugar or flour. For this weighing machine—which he had sketched out in a fit of inspiration between three and seven o'clock one morning—Bhisey won a competition administered by the London-based *Inventor's Review and Scientific Record*, beating out submissions offered by a number of British contestants. He also demonstrated that there was demand for his contraptions well beyond colonial Bombay: another periodical in London, *Patents*, predicted that 'when the invention becomes generally known no grocer will think of being without one of these useful and handy devices.'¹¹

Outside of his workroom, Bhisey dabbled in much more unorthodox fields: mind reading, séances, and the staging of illuminations and optical illusions. Illuminations and optical illusions were popular forms of entertainment which drew on the scientific ethos of the late Victorian era. And, perhaps unexpectedly, these demonstrations—rather than his prolific inventions—proved to be a critical factor in helping Bhisey forge relations with the political elite in India and the

BOMBAY BEFORE MUMBAI

United Kingdom. The Professor was savvy enough to conduct his performances before audiences that included these elites. At the 1889 session of the Indian National Congress in Bombay, for example, he succeeded in using optical devices to illuminate an entire statue, outdoing a troupe of Italians who only achieved partial success. A few years later, Alfred Webb, the Irish MP who presided over the Congress' 1894 session in Madras, witnessed one of his shows, which also featured supposed communication with the dead, at the home of the Bombay industrialist Morarji Gokuldas. Webb praised Bhisey for his 'remarkable exhibition of Indian Legerdemain or Necromancy'.¹² In late 1895, Bhisey travelled to Great Britain to perform more shows. A Manchester broadsheet gives us a colourful description of one such demonstration staged at the city's iconic Free Trade Hall. After a 'very tasteful and pleasing' performance by two *nautch* girls and a group of Indian musicians, Bhisey held the audience spellbound as he conjured up his illusions. 'He apparently transforms a block of stone into the living head of a girl,' the paper noted. 'Then the head disappears and a flower-pot takes its place, and this is handed to the audience to satisfy them that "there is no deception."' A London newspaper, the *Era*, simultaneously proclaimed Bhisey 'the chief of the illusionists' and remarked on his 'several mystifying feats'.¹³

There was little mystery, however, about the consequences of the Professor's growing fame. In the immediate short term, it helped Bhisey promote his various inventions. Bhisey most likely used his time in Britain to contact various scientific magazines and journals, which subsequently carried glowing reviews of his creations. Additionally, Bhisey's successful British tour propelled his star in the firmament of Bombay civic society. Once he returned home, he immersed himself in various city and community activities. As bubonic plague swept over Bombay in the late 1890s, he was sought out as a volunteer officer for the municipal plague commission. In time, Bhisey published a series of suggestions on how the government could better communicate its public health directives to citizens; in particular, he recommended that authorities hold regular meetings with representatives of the city's various communities.¹⁴ Bombay's learned societies also reached out to the Professor. The Dnyan Prasarak Mandli—founded in 1848 by Dadabhai Naoroji and fellow members of the reformist 'Young

THE TRANSNATIONAL CAREER OF THE 'INDIAN EDISON'

Bombay' generation to promote education and learning—displayed one of Bhisey's new inventions at an event celebrating its fiftieth anniversary. And, finally, Bhisey forged ever-closer ties with some of the leading political figures of western India, meeting Dinsha Wacha and, sometime in 1899, securing from him a letter of introduction to Dadabhai Naoroji, then based in London for his political work.¹⁵

That year, Bhisey set sail one more time for England, vowing to his friends in Bombay that 'I would not return Home unless I either make a success or spend till my last pound.'¹⁶ In London, the Professor hoped to chart out a new course. He had no intention of resuming mind reading or optical illusion shows—these had served their purpose. Rather, by reaching out to networks of wealthy and well-connected Indians and Britons in the imperial capital, Bhisey hoped to secure financial support for marketing his various inventions.

* * *

'Allow me to introduce you to Mr. S.B. [sic] Bhise, a talented young Hindu gentleman,' Dinsha Wacha wrote in his letter to Dadabhai Naoroji. 'Such a youth needs encouragement and advice from you. And I hope you will guide the young man whenever he may come to seek your counsel.'¹⁷ In the late nineteenth century, prominent Bombay citizens like Wacha wrote countless such letters to their contacts in the United Kingdom, introducing young Indians arriving on British shores for higher education, business, apprenticeships, or preparation for the Indian civil service examination. These letters proved instrumental in helping Indians navigate their way in a foreign land. Friendly contacts in Britain could, after all, assist in matters ranging from setting up bank accounts to facilitating social contact with other Indian expatriates. For Bhisey, however, Wacha's letter had a much greater and longer-lasting significance. It served as a passport into the broader networks of business and finance that were inextricably linked with early Indian nationalism.

It is easy to forget that several of India's earliest nationalists and political reformers were also businessmen. Nationalist activity, after all, was not a terribly remunerative venture. Furthermore, Bombay, which emerged as the hub of nationalist activity after the establishment of the Indian National Congress in 1885, had a long tradition of com-

BOMBAY BEFORE MUMBAI

mercial leaders taking on the mantle of political leadership. Its *sethias* (merchant princes) launched the first salvos against colonial policies in the early and mid-nineteenth century.¹⁸ Although educated professionals began to dominate the city's political life by the 1880s, they continued to cooperate closely on nationalist affairs with business magnates—and quite often were in their direct employ. Amongst the founding generation of the Congress, Wacha perhaps best navigated between the worlds of politics and business. Wacha was well known amongst the barons who ran Bombay's cotton mills: he had a lifelong association with the firm of Morarji Gokuldas and served as a member of the city's powerful Millowners' Association. In late 1886, as he was helping stabilise the foundations of the infant Congress, Wacha began working for the Tatas.¹⁹ Dadabhai Naoroji also had a longstanding connection with the western Indian cotton trade: in 1855, he joined several members of the Cama family in establishing a mercantile outfit with operations in London and Liverpool. Later, he began his own firm, Dadabhai Naoroji & Co., which maintained offices in the City of London until it closed in late 1881. Business acumen proved to be useful in early nationalist activities. In the early 1880s, for example, Naoroji worked with Behramji Malabari to raise capital for the *Voice of India*, a newspaper that ventured to bring Indian editorial viewpoints before the British reading public. In the subsequent two decades, Naoroji helped manage the finances of *India*, the publication of the British Committee of the Indian National Congress.²⁰

When Bhisey first approached Naoroji in July 1899, questions of finance were of preeminent concern to him. The Maharashtrian inventor had been busy tinkering with a range of new gadgets and devices. He had recently developed an inexpensive, lightweight apparatus for standing and locking bicycles. Another invention, the Advertising Sign Lamp, later styled as the Vertoscope, had won British and American patents the previous year. This was a device that captivated reviewers. Bhisey pioneered a way to simultaneously display on a screen four or more advertising messages in different colours; each message would disappear and reappear in a flash of 'variegated brilliant lights, in a most charming and attractive manner'. *Patents* predicted that, aside from being used in shop windows, the Vertoscope would be well suited for use on the omnibuses that plied London's streets in increasing number.

THE TRANSNATIONAL CAREER OF THE 'INDIAN EDISON'

Finally, to round off this eclectic range of inventions, Bhisey perfected an automatically flushing toilet. 'He undoubtedly possesses an inventive faculty of a very high order,' *Patents* concluded. 'We trust he will not find much difficulty in obtaining the necessary assistance of capitalists and manufactures to enable him to develop and extend the sphere of his operations.'²¹

Naoroji quickly became an effective facilitator in this task. In the summer and autumn of 1899, he appears to have introduced Bhisey to George Birdwood, the India Office official who also took a keen interest in promoting Indian business ventures, and Jeremiah Lyon, Jamsetji N. Tata's primary business associate in Great Britain, while also helping the inventor re-establish contact with Alfred Webb. Bhisey, for his part, relied heavily upon Naoroji's counsel once potential financiers began approaching him. 'As I do not have the vast experience of doing business in this country as you have,' Bhisey stated, 'I leave it to you to see how far my expectations and estimates are correct to lead to a success.' Between 1899 and 1901, Bhisey concentrated his energies on commercial distribution of the Vertoscope. He shared detailed plans with Naoroji for the manufacture, sale, and rental of these advertising lamps, estimating that he could garner an initial annual profit of £2,000. 'There being no other patent on the market that would match with the Vertoscope as a combined shop window attraction and advertiser—either in effectiveness or cheapness, I feel confident that the concern would be very profitable,' he wrote to Naoroji in March 1901. Initially, at least, he seemed to be correct. An undated letter indicates that Bhisey found ready customers among businesses in some of London's busiest areas, such as Leicester Square, Regent Street, Oxford Street, and Strand. The South Wales Railway also ordered Vertoscopes for display at station bookstalls.²²

As Bhisey consulted Naoroji about his dealings with various financiers, he also began to probe the nationalist leader's willingness to put up his own capital. 'It would save me so much worry,' he wrote to Naoroji, 'and I need hardly add that the immediate success of my Pioneer Mission would be entirely due to your kindness.' In mid-March 1901—after taking a walk with the inventor through an advertising exhibition at the Crystal Palace, where the Vertoscope was prominently displayed—Naoroji signalled his interest in such a scheme. Bhisey

BOMBAY BEFORE MUMBAI

quickly shelved negotiations with businessmen in the City of London while Naoroji approached a solicitor, Frank Birdwood (George Birdwood's son), to draft a legal agreement for what would become Bhise's Patent Syndicate. Under the terms of the agreement, drawn up on Lime Street in late April of that year, Naoroji pledged £300 to cover manufacturing expenses for the Vertoscope. In return, Bhisey promised him a share of the profits and a board seat if the syndicate evolved into a limited company. Naoroji deposited his funds in a bank with a nationalist connection: William Hutchinson & Co., where William Digby—the British advocate of Indian political reform, who was then putting the finishing touches on his book *'Prosperous' British India*—was the senior partner. Dinsha Wacha, meanwhile, facilitated contact between Naoroji and Narottam Morarji Gokuldas, who had been Bhisey's principal financier in Bombay.²³ Narottam was, of course, the son of Wacha's employer, the mill baron Morarji Gokuldas. The syndicate, therefore, ensured that Indian political and family connections would play an instrumental role in taking forward the Maharashtrian inventor's career.

The year 1901 was a dramatic one in Bhisey's life. Shortly after the creation of Bhise's Patent Syndicate, he received sobering news from Bombay that his infant son had died and that his wife, Sushilabai, was critically ill.²⁴ Amidst his grief and worry, Bhisey nevertheless plunged ahead in creating a new line of inventions, now choosing to experiment with typewriting and typesetting technologies. This was a significant development, once more illustrating how Bhisey was able to respond to changing cultural and technological dynamics in India as well as in the wider world. The typewriter was becoming an increasingly common instrument in Bombay offices—though its use was largely limited to correspondence in English. Bhisey seems to have developed a machine that provided greater speed and more accurate spacing and line justification. In October 1901, he forwarded Naoroji a favourable review in *Patents* of his newly developed typewriter. 'The mechanism for shifting the platen accurately and speedily, reversing its direction, and effecting the line spacing automatically, is, indeed, very novel, and could be easily adapted to any typewriter machine, no matter of what make,' the journal claimed. Moreover, Bhisey's typewriter was particularly suited for the Indian market. Responding to Indian friends'

THE TRANSNATIONAL CAREER OF THE 'INDIAN EDISON'

requests that he tackle the problem of typing in Indian scripts, the inventor fine-tuned his machine so that it was 'admirably adapted to suit the intricacies of the Oriental languages'.²⁵

From this point forward, Bhisey's innovations in typewriting and typesetting came to define his career. Although he continued to promote the Vertoscope—he exhibited it at Earls Court in London, while a group of investors pushed for the lamp's sale and manufacture in Paris—mention of this invention completely disappears from correspondence after September 1902. Most probably, the Vertoscope—in spite of the initial burst of interest it inspired—was a commercial flop. This might explain why Bhisey penned a contrite note to Naoroji on 12 December 1902, alluding to his own 'unfortunate circumstances [which] I had to fight with' and responding to the nationalist leader's accusations of 'waste'.²⁶ Regardless, by that time, Bhisey was preoccupied with work on his typecaster, which received a provisional patent in December 1901. Typesetting was a busy field of technological innovation. By the turn of the century, the Linotype and Monotype machines were displacing the centuries-old practice amongst printers of manually casting metal types. The machines were beginning to dominate the printing world, although they remained problematic technologies. Bhisey's machine, called the Spasotype, incorporated many of the innovations of his typewriter, required far less power than existing typesetting apparatuses, and promised to be significantly cheaper than the Linotype.²⁷ It was much smaller and more compact than either the Linotype or Monotype machines. Well before he received his provisional patent, a commercial firm, the Empire Typewriter Company, approached Bhisey for marketing.²⁸ Naoroji responded to these developments by putting Bhisey in touch with friends familiar with the printing business. Amongst these friends was a name familiar to all Indian nationalists and radicals of the era: Henry M. Hyndman.

Hyndman was a deeply complex—and occasionally contradictory—figure. An early British interlocutor with Karl Marx, he founded Britain's first socialist political party, the Social Democratic Federation, in 1881. Having digested Naoroji's preliminary economic writings, Hyndman formulated his own version of the drain theory, which in time became far more radical and condemnatory of British rule in India. He also became one of the principal British interlocutors with

BOMBAY BEFORE MUMBAI

Indians resident in the United Kingdom, joining them in nationalist activities in London and inculcating socialist revolutionary thought amongst young students. On the hustings and in the columns of left-leaning newspapers across Europe, he poured scorn on the ‘trading, capitalist, profit-mongering classes’ for destroying both India and the British working classes.²⁹ Yet, somewhat incredulously, he remained within these capitalists’ very rank and file, operating a business in the City of London that, evidently, had extensive dealings in the printing industry. Thus, on a chilly afternoon following New Year’s Day 1902, Bhisey landed on the doorstep of Hyndman’s house off St. James’s Park and presented Naoroji’s letter of introduction. Unlike other visitors, he did not arrive with the intention of discussing worldwide socialist revolution or imperialist exploitation.

Hyndman was intrigued by the Professor’s inventions. The typewriter, he judged, was a ‘clever appliance’ that would ‘greatly improve the appearance of typewritten work’. He quickly recognised its utility in India. ‘If there is an outlet in the Native States and in the East generally for typewriters which give the native characters with adequate spacing,’ he wrote to Naoroji, ‘then I should say, given a sound mechanical opinion as to the soundness of the invention, it ought to be worth taking up for this purpose and a good profit should result.’ As for the Spasotype, Hyndman qualified his enthusiasm—as well as that of Bhisey, who confidently predicted that his machine would drive Monotype and Linotype out of business—by noting rival inventions which could conceivably supplant Bhisey’s typesetting machine. Nevertheless, he agreed to reach out to ‘very wealthy and speculative men’, including a principal investor for the Barlock Typewriter Company, and a week later promised Naoroji that he and his City friends could form a syndicate valued at a whopping £15,000. ‘I think that on the whole it may turn out rather fortunate that you sent Prof. Bhise to me,’ noted Hyndman—not one to shy away from self-congratulatory language—before briefing Naoroji on the 1901 International Socialist Congress and launching into a tirade against imperialism.³⁰

By early 1903, as failure of the Vertoscope probably faded from memory, Bhisey’s years of inventive labour seemed to be finally inching closer to major commercial success. He was confident enough of his typewriter and typesetter to temporarily wind down his London work-

THE TRANSNATIONAL CAREER OF THE 'INDIAN EDISON'

shop and make a brief sojourn to Bombay. However, before leaving, he withdrew the last remaining funds from Bhise's Patent Syndicate and pleaded with Naoroji for future financial assistance. 'Although the prospects look brighter still I leave it to you to judge for yourself as several times I deceived myself and consequently your good self to bring the business to such a crices [*sic*] in spite of my hard & restless work,' he wrote in February. Once Bhisey returned to London, settling into a house in Islington with his now-recovered wife, Sushilabai, Naoroji seems to have complied with his wishes, although no details of their arrangement survive. The inventor relied on Naoroji's funds to spool out a new set of gadgets: a contraption for fitting buttons onto shirts; an 'apparatus to cure headache[s] mechanically', which pressed inflated pads of air against the forehead; an inexpensive device for grinding spices, sure to be 'appreciated by Indian Ladies'; and even a 'bust-improving' device that women could affix under their dresses 'for imparting a graceful and full appearance to the bust'.³¹ But typewriting and typesetting innovations remained the focus of his inventive talent, and in 1905 he introduced an improved version of the Spasotype machine. He christened it the Bhisotype.

* * *

In comparison with the unwieldy mechanical clutter of the Monotype or Linotype apparatuses, the Bhisotype was a sleek and compact affair. 'The illustration of this machine shows such a small and simple-looking implement that one wonders how its claimed output could be so great,' Richard E. Huss comments in his authoritative work on the history of mechanical typesetting methods.³² Yet it did, indeed, yield an impressive output, producing some 2,400 types per minute, thereby outperforming an industry leader, the Wicks rotary typesetting machine, which could produce, at most, around 1,100 types per minute. Requiring minimal electricity and costing only a fraction of Linotype or Monotype machines, the complete Bhisotype machine—consisting of a typecaster and ten type-composing units—seemed set to revolutionise the printing world.³³

Henry M. Hyndman re-entered the picture at this time. While Naoroji forwarded Bhisey cheques of small denominations in order to pay rent and other incidentals, the socialist leader hammered out the

BOMBAY BEFORE MUMBAI

terms of a larger financial arrangement. The resulting company, Bhisotype Limited, became the inventor's main source of income after 1905, allowing him to work out remaining theoretical problems of his machine, construct prototypes, and pay for various foreign patents. Although now more financially beholden to Hyndman and his friends, Bhisey was careful enough to recognise Naoroji's continuing stake in his inventions. 'I am naturally glad to see my unceasing exertions are beginning to be rewarded,' he wrote to Naoroji on 7 April 1905, after meeting with Hyndman's solicitors to finalise legal arrangements for the company. 'At the same time I cannot but say that it was mostly due to your helping me on to come to this stage—patiently and ungrudgingly.' Consequently, Bhisey promised to give the nationalist leader half of his shares once the company was formally registered.³⁴

Through the end of 1905, at least, Bhisotype Limited seems to have enjoyed some success. Bhisey enthusiastically reported that its directors resolved to 'increase its capital to a very large extent'. While hardly any information survives about the company, we do know about two important developments. Firstly, Bhisey ruled out approaching the Linotype Company for marketing and production, even though Hyndman's solicitor was 'favourably disposed' to the firm and encouraged such a course of action. Due to its large reserve of capital and its commanding market presence, it is quite probable that Linotype could have quickly commercialised Bhisey's innovations and returned handsome profits to the inventor and his original investors. However, some financial irregularities in Linotype in 1904 appear to have finally snuffed out this possibility. Bhisey noted that, following a Linotype shareholder's meeting where these irregularities were discussed, Hyndman's solicitor had changed his mind: 'Now he admits that I was perfectly wise in not consenting to approach that company.' Bhisey prevailed in urging an independent course of action, confident that he could steer clear of the large corporation.³⁵

This is of importance when considering the second known development within Bhisotype Limited: that, by 1907, it was running into serious financial difficulties. Certainly, Hyndman was never able to cobble together from his partners the fantastical sum of £15,000 that he so confidently quoted to Naoroji in 1902—the total capital raised appears to have been well under £1,500.³⁶ Thus, Bhisey turned to

THE TRANSNATIONAL CAREER OF THE 'INDIAN EDISON'

Naoroji for additional financial support. But this was also becoming a difficult proposition. In early 1907, after he returned from a hurried trip to India to preside at the Calcutta session of the Congress in December 1906, Naoroji's health broke down, forcing the octogenarian nationalist leader to permanently retire from politics and prepare for a final return to Bombay. During his last few months in London, where his convalescence was somewhat eased by a special medical ointment that Bhisey invented, Naoroji continued to send monthly allowances to the inventor and also made provisions for such payments to continue for an indefinite period once he had departed England's shores. These funds likely helped Bhisey resolve the last few mechanical irregularities in the Bhisotype machine, clearing the way for formal evaluation by outside technical experts.³⁷

Finally, in 1908, the wellsprings of financial support completely dried up. Hyndman, writing to Naoroji in July about his anger over Bal Gangadhar Tilak's recent sentencing to externment in Burma, also noted that Bhisotype Limited was broke. 'The people who have found this preliminary money, and more particularly myself are exhausted,' he wrote. 'I have done what I have never done before in my life, that is to say, have put upwards of £200 of my and my wife's money into the affair, in order to encourage my friends and to help on this wonderful invention.' Although Bhisotype was 'undoubtedly a success', Hyndman could not afford to sink any further capital into the company. 'This was much more than I could afford,' he concluded, 'and I am absolutely unable to go any farther, as this expenditure [has] greatly crippled me.' Desperate for money, Bhisey contacted Indian friends in Great Britain but evidently found little support. He began taking loans.³⁸ Fortunately, the inventor was still able to rely upon monthly allowances from the account set up by Naoroji.

But in late September, he approached Frank Birdwood, who managed Naoroji's remaining assets in London, and received a further shock. Birdwood, citing instructions that he had recently received from Naoroji's Versova residence north of Bombay, categorically refused to let the inventor draw any more sums from the account. 'He flatly told me that the invention was going to die for want of financing support,' Bhisey explained to Naoroji, in a hurriedly written letter dispatched at the beginning of October. 'He asked me to return to India by the earli-

BOMBAY BEFORE MUMBAI

est possible steamer.' This was, for Bhisey, the cruellest of all possible blows. Had Naoroji lost all faith in the inventor's ability to successfully market his typesetting machine? The Bhisotype machine, Bhisey explained to the nationalist leader, was at that moment garnering positive reviews from the technical evaluators of various interested companies, including the Tatas. He was, furthermore, arranging to set sail for the United States, as he believed that his best prospects for commercial success now lay in that country. Birdwood's curt instructions to return to India dashed these plans to pieces. 'He has virtually [*sic*] left me to starve with my wife and family in this foreign country,' he wrote with palpable indignation. 'After struggling hard in perfecting my invention and getting the merits . . . of experts and trade papers in England and abroad, and while full of hopes for the bright future it has come as a shock to me and Mrs. Bhisey to find ourselves in such a helpless and awkward position.'³⁹

If Bhisey hoped to wring out a few additional pounds by appealing to Naoroji's sympathies, then he did not succeed. Naoroji's son-in-law, Homi M. Dadina, replied from Versova that the enfeebled nationalist leader, having already spent a total of £2,600 over the past seven years to support Bhisey's inventive work, was 'quite unable to render you any further financial assistance'. Completely out of funds, save for £100 earmarked for a one-way ship passage, Bhisey, his wife, and young son set sail for Bombay in early December, embarking on what was most likely a final return home. But fortune had a curious way of smiling upon the inventor—even at the darkest of hours. Shortly before leaving London, Ratan J. Tata, Jamsetji N. Tata's son, agreed to invest £250 into the Bhisotype. And, aboard the ship, somewhere in the frigid waters of the English Channel, Bhisey discovered that another nationalist leader, Gopal Krishna Gokhale, was a fellow passenger. As the P&O steamer *SS Persia* sailed towards the Arabian Sea, Bhisey explained in detail his typesetting and type-composing machine to Gokhale and thereby won himself a new supporter amongst India's political elite.⁴⁰

Gokhale's intervention promised to be fortuitous for both the inventor and his former financial patron. He appears to have helped convince Ratan J. Tata to turn a one-time commercial investment in the typesetting machine into a long-term venture. Over the next one-and-a-half years, Gokhale became the primary intermediary between Bhisey, Tata, and Naoroji, coordinating negotiations that eventually

THE TRANSNATIONAL CAREER OF THE 'INDIAN EDISON'

resulted in a new commercial syndicate, Tata Bhisotype, with a working capital of £15,000. As the syndicate took shape, Gokhale lobbied Tata to assign to Naoroji a percentage of total shares as compensation for his earlier investments. He acknowledged that, legally speaking, Naoroji had no right 'to participate in the profits or even to have the money advanced by him refunded to him'. Hyndman's Bhisotype Limited, in which Bhisey had, in 1905, promised Naoroji half of his shares, had failed, and Naoroji's own arrangements with Bhisey terminated before the machine could garner any commercial sales. There were, however, 'moral' grounds for compensating Naoroji—grounds that Bhisey himself recognised. Naoroji, after all, had 'supported Mr. Bhise when the invention was nothing more than an idea in his head'. In a series of letters passing between Gokhale's bungalow in Lonavala and Tata's chambers in Bombay, the two men agreed to assign Naoroji 7 per cent of the shares of Tata Bhisotype and also refund his cumulative investment of £2,600 in Bhisey's work while in London, plus interest. The full terms of the arrangement were entirely contingent upon Tata Bhisotype's commercial success; nevertheless, the immediate transfer of shares and interest payments would at least provide some relief for 'Mr. Dadabhai's straitened circumstances'.⁴¹

There was one problem. After discussing the terms of the arrangement with Gokhale and Dinsha Wacha, Naoroji concluded that he was not getting his fair share. He instead demanded a 20 per cent stake in Tata Bhisotype, or roughly half of the shares allotted to Bhisey. Dredging up correspondence from the time of Bhise's Patent Syndicate, Naoroji argued that his earlier financial support had been instrumental in creating the finished typesetting machine and therefore justified much more than simple repayment of a moral debt. He quoted from Bhisey's earlier letters to him to buttress his claims:

After 'the triumph' and 'Success' have been secured as you say—'mostly due to the support you kindly gave me all along'—under very trying circumstances and with much inconvenience and risk to me, I *cannot* believe that *you* would think of disappointing me and of depriving me of my full fruit of the success by refusing to give me half.⁴²

It is a little difficult to understand Naoroji's position. He quoted selectively from letters Bhisey had penned five years beforehand, when the Bhisotype machine was still a work in progress. Naoroji also relied

BOMBAY BEFORE MUMBAI

on the dubious logic that Bhisey's 1905 promise of half of his shares from Hyndman's Bhisotype Limited, now failed, still had legal validity and should, therefore, dictate the terms of the current Tata venture. Was the nationalist leader—whose keen business instincts were still alive in spite of his advanced years—holding out for a better bargain in order to ease his own financial difficulties during retirement?

The inventor, for his part, reacted with a cool composure to these new complications, promising he 'would always be prepared to do what is considered fair to you & me'. In late February 1910, Bhisey travelled to Versova in order to visit Naoroji, now 84 years old, and craft a mutually agreeable settlement for their shares in Tata Bhisotype. There were flashes of lingering resentment: the inventor reminded Naoroji that he had been 'stranded and left to starve as it were with wife and family in a foreign land' after Naoroji and Frank Birdwood had shuttered his account. Bhisey, furthermore, watered down Naoroji's claims of instrumentality in bringing about the completed Bhisotype machine, now giving greater recognition to Gokhale. 'The credit for succeeding in forming the present Tata Bhisotype is entirely due to my hard struggles and unceasing efforts and the most timely help given and the keen interest taken by the Honbl. Mr. G.K. Gokhle [*sic*],' he stated. 'So legally speaking you had no claim on the new Tata Bhisotype Syndicate.' Nevertheless, Bhisey put together a proposal that satisfied Naoroji and neatly tied together the various financial loose ends of his inventive career. Of the £6,000 worth of shares in Tata Bhisotype that did not belong to Ratan J. Tata or other investors, Bhisey allotted £2,000 each for Naoroji and himself, and put aside the remaining £2,000 for charity. Naoroji and Bhisey agreed to jointly invest the charity amount into Gokhale's Servants of India Society and other 'political, industrial, scientific, social or religious [*sic*] funds'. Bhisey agreed to use a portion of his shares to repay Hyndman's Bhisotype Limited, while Naoroji pledged to reimburse the industrialist Narottamdas Morarji Gokuldas for investments he made in Bhisey's work back in 1899, during the beginning of the inventor's career in Bombay. Tata Bhisotype, therefore, helped recirculate capital amongst various political and industrial actors in both India and Great Britain.⁴³

Bhisey's proposal received Naoroji's assent. It resulted in very little immediate pecuniary gain to the aged nationalist leader, diminished

THE TRANSNATIONAL CAREER OF THE 'INDIAN EDISON'

shares for the inventor, and—due to promises of repayment to earlier investors—the real prospect of financial loss if Tata Bhisotype failed. Gokhale's Servants of India Society, as well as other prospective recipients of the charity funds, appeared to be the only real beneficiaries. Regardless, the agreement satisfied both men, who thereafter patched up their relations. 'I have the consolation,' Bhisey wrote to Naoroji, 'that you are thoroughly pleased with the above proposals I have made at a considerable sacrifice to myself and duly appreciate what I am conscientiously doing to fulfil my moral obligations to you.' Naoroji, who suffered 'a marked depression in his health' on account of his financial worries and his differences with Bhisey, achieved some peace of mind, affording him a more tranquil retirement.⁴⁴

There was, of course, no rest for Bhisey. As he left Naoroji's Versova bungalow, he cast his sights towards Great Britain and the United States, and the arduous task before him. It was time to return to his workroom and ready the Bhisotype machine for commercial marketing.

* * *

Today, Shankar Abaji Bhisey's career appears as not much more than a footnote in the history of Indian science and technology. This is regrettable. Bhisey's inventions, after all, demonstrate that he possessed far more than a brilliant scientific mind. He had an uncanny ability to recognise major social and economic transformations in the world around him, producing new apparatuses and machines in response to these changes. While in Bombay, Bhisey laboured with the railway commuter and ordinary store clerk in mind. His Vertoscope sign lamp, although developed in India, found a natural (albeit brief) outlet along the throbbing commercial arteries of Edwardian London. And, by experimenting with typewriting and typecasting technologies, Bhisey responded to broader changes that affected Britain, India, and the wider world. His friends in India, after all, had encouraged the Maharashtrian inventor to improve methodologies for typing in Indian scripts. More generally, Bhisey recognised imperfections in the existing Linotype and Monotype machines—imperfections that hobbled the global printing industry. In developing Bhisotype, he pushed forward a multi-decade effort to streamline mechanical typecasting, a task that had as much of an impact in Baltimore or Baku as it did in Bombay.

BOMBAY BEFORE MUMBAI

‘Even my competitors,’ Bhisey wrote to Dadabhai Naoroji in 1916, ‘had to admit frankly of my succeeding in solving some intricate problems that were unsuccessfully tried by many noted inventors during the last sixty-five years.’⁴⁵ This was no idle boast.

Why, then, does Bhisey remain an obscure figure? Part of the reason, no doubt, has to do with the anticlimactic story of the Bhisotype. After parting company with Naoroji in Versova, Bhisey resumed a frenetic schedule of travel, experimentation, and commercial negotiations, work that would eventually span three continents. In August 1910, Tata Bhisotype purchased patent rights from Henry M. Hyndman’s defunct company. The syndicate published pamphlets that extolled the typecasting machine’s productivity, its ability to cast type in ‘any of the Oriental languages’, and its advantages over Monotype and Linotype.⁴⁶ But something went amiss. The onset of the First World War, and the resultant shortage of manpower in non-military factories, put a stop to manufacture of the Bhisotype in Britain.⁴⁷ The inventor’s relationship with the Tatas also came under serious strain. An ailing Ratan J. Tata appointed his cousin, Shapurji Saklatvala—who, some years later in 1922, would become the third Indian elected to the House of Commons, and one of the first Communist party members to sit in Parliament—to manage the syndicate in London. Bhisey’s final relationship with an Indian businessman-turned-political leader did not go well. He accused Saklatvala of taking advantage of wartime conditions to ram through a new and highly unfavourable working arrangement. Saklatvala halted all work within the syndicate in 1917. By the end of the year, Bhisey was frantically reaching out to potential American investors, Saklatvala was increasingly distracted by events transpiring in Bolshevik Russia, and Tata Bhisotype collapsed amidst mutual recrimination.⁴⁸ It was perhaps for the better that neither Naoroji nor Gokhale were alive to witness this sordid turn of events.

Bhisey now decided that it was time to quit London. Passing over ‘several tempting offers’ to design improved munitions during the war, he shifted permanently to New York in order to search for new commercial sponsors for the Bhisotype. Here, he filed a slew of new patents for typecasting technologies and formed his own company, the Bhisey Ideal Type Caster Corporation. His typecasting machine, however, seems to have never been put on the market. As late as 1927, he

THE TRANSNATIONAL CAREER OF THE 'INDIAN EDISON'

was promising its imminent commercial launch—yet, by that time, the Bhisotype was no longer on the cutting edge of typecasting technology.⁴⁹ A rival machine, developed by the American John S. Thompson in 1908, was quickly gaining popularity. Thompson's success must have been excruciating for Bhisey to observe. The Thompson typecaster was marketed by the Universal Typecasting Machine Corporation of Chicago, which in 1917 had originally sought to commercialise the Bhisotype. At that time, however, Bhisey still considered himself beholden to the Tata syndicate. In spite of earnest pleadings from one of Universal's representatives, he dithered on signing a formal agreement with the company. Consequently, Universal instead purchased patent rights for Thompson's machine in 1918. In 1929, the American division of the Monotype Company bought out Universal, ensuring the commercial longevity of the Thompson typecaster, which was manufactured until the 1960s.⁵⁰

Bhisey's foray into printing technology thus came to a humiliating end. In response, the inventor turned to more esoteric endeavours, in a sense coming full circle to his early days when he practiced mind reading and optical illusions. The unveiling of the 'spirit typewriter' or ouija board in 1920 heralded this new direction in Bhisey's career. He began to write a book detailing 'all mystic or Psychic experiences' from his life. Although by 1931 he had completed 450 pages of the manuscript and informed a Bombay friend of its imminent publication, the book seems to have never seen the light of day.⁵¹ Turning to architecture, Bhisey constructed models of a proposed 'lotus philosophy centre', a universal house of worship that elicited praise from offbeat religious groups such as one that styled itself the Super-Mind Science Church.⁵² Bhisey also dabbled in chemistry. An iodine medical solution that he created, called 'atomic iodine' or 'atomidine', proved to be remunerative in spite of sceptical reviews from clinical experts.⁵³ Unperturbed by such reviews from the medical establishment, the inventor marketed the solution to occult healing circles. In the late 1920s or early 1930s, he brought atomidine to the attention of Edgar Cayce, a psychic and mystic who operated out of a seaside compound in Virginia Beach. Cayce was known as the 'Sleeping Prophet' for the predictions and revelations he made while deep in a trance. In his subsequent slumbers, he prescribed atomidine for a range of medical ill-

BOMBAY BEFORE MUMBAI

nesses and conditions. His followers continue to manufacture and retail the solution today.⁵⁴

Shankar Abaji Bhisey's death in 1935 prompted condolence meetings in both New York and Bombay. Speaking at one such function in Dadar, the prominent barrister M.R. Jayakar focused on the latter phase of the inventor's life, extolling his 'gallant and persistent effort to bang open the doors of the Unknown' by 'standing on the border line between physical science and the supernatural'.⁵⁵ For our purposes, however, it will be more prudent to focus on the other border that the 'Indian Edison' straddled, that between science and politics. Bhisey, after all, was one of several promising young Indians whose careers were helped along by early nationalist leaders and their British allies such as Dadabhai Naoroji, Dinsha Wacha, Henry M. Hyndman, and Gopal Krishna Gokhale. But this was a mutually beneficial arrangement for all parties involved. While Bhisey profited from their financial assistance and business contacts, Naoroji, Gokhale, and others actively laboured to politicise the inventor, inducting him into their political work.

These leaders soon gained an avid supporter for the nationalist agenda. Naoroji, for example, plied Bhisey with copies of his writings on Indian poverty. Evidently, Bhisey was moved by what he read: he recoiled at learning about 'the true state of my beloved country and the true causes of our poverty'. Subsequently, he felt compelled to dash off notes to Mancherji Bhownagree, the Conservative Indian MP, on 'the importance and necessity of supporting our national Congress'.⁵⁶ Bhisey accompanied Naoroji and Hyndman to the opening of Shyamji Krishnavarma's India House in London in 1905, attended political receptions for Gokhale and William Wedderburn, and, in 1913, even joined a deputation to the India Office protesting the treatment of Indians in South Africa.⁵⁷ He also discovered that it was impossible to separate his own inventive work from the larger political currents swirling around him. In July 1909, British technical evaluators produced a tepid review of the Bhisotype. The inventor explained the circumstances to Naoroji: evaluators had looked at the typecaster the day after Madan Lal Dhingra, the Indian revolutionary, had shot dead an Anglo-Indian official, Curzon Wylie, at the Imperial Institute in South Kensington. 'The racial feeling was very tense in the city,' Bhisey wrote, 'and owing to such a state of things it was not possible to get any better report.'⁵⁸

THE TRANSNATIONAL CAREER OF THE 'INDIAN EDISON'

Bhisey's ties to nationalist politics did not entirely fray after he sailed across the Atlantic to New York. He identified himself as a staunch Gandhian and hosted the occasional Indian visitor to the United States, such as the revolutionary leader Mahendra Pratap.⁵⁹ Moreover, Indian journalists and commentators began to hold up Bhisey as an example of how science and technology could play a role in the broader mission of India's political regeneration. In 1929, the *Hindustan Review* of Allahabad highlighted the accomplishments of the Maharashtrian inventor alongside those of the Bengali scientist Jagadish Chandra Bose. 'If India is ever to achieve true self-government,' the magazine noted, 'it will only be when her sons have distinguished themselves in all spheres of human activities and competed successfully with Europeans in every field of research and discovery.'⁶⁰ Even without the intercession of the 'spirit typewriter', we can be sure that Shankar Abaji Bhisey's erstwhile benefactors—Dadabhai Naoroji, Gopal Krishna Gokhale, Henry M. Hyndman, and other Indian nationalists—would have agreed with such a sentiment.

89. Dick Kooiman, 'Labour Legislation and the Working Class Movement: Case of Bombay Labour Office, 1934–7', in *Economic and Political Weekly*, no. 16 (1981), p. 1807–22.
12. THE TRANSNATIONAL CAREER OF THE 'INDIAN EDISON':
SHANKAR ABAJI BHISEY AND THE NATIONALIST PROMOTION
OF SCIENTIFIC TALENT
1. Herbert Asbury, 'Is the Ouija-Board Controlled Subconsciously?', *Popular Science Monthly* (February 1921), p. 85; Sunker Abaji Bisey [Shankar Abaji Bhisey], Spiritualistic Communication Apparatus, US Patent Office 1,420,956 (New York, filed 22 March 1920, and issued 27 June 1922), p. 1.
 2. In contemporary correspondence and news coverage, Bhisey's name regularly appeared as 'Bhise'. Once he relocated to the United States, he dropped the 'h' and went by 'Bisey'.
 3. Extract from *Caxton Magazine*, October 1908, in *Bhisotype: The Method and Economy of the New Single Type Caster and Composer* (London: Tata-Bhisotype Syndicate, no date), p. 21.
 4. For a brief history of the typewriter in India, see David Arnold, 'The Rise of the Indian Typewriter' in Sidharth Bhatia (ed.) *With Great Truth and Regard: The Story of the Indian Typewriter* (Mumbai: Roli Books, 2016), pp. 14–37.
 5. David Arnold, *Science, Technology, and Medicine in Colonial India* (Cambridge: Cambridge University Press, 2000), p. 153.
 6. Jim Masselos, *The City in Action: Bombay Struggles for Power* (New Delhi: Oxford University Press, 2007), p. 1.
 7. *Ibid.*, p. 58.
 8. Fletcher Pratt, 'India's First Native Inventor', *Brooklyn Daily Eagle*, 29 September 1923, p. 5.
 9. 'An Indian Inventor and His Invention: The "Bhisotype"', *Indian People*, 21 January 1909, p. 7. In an interview published in an American newspaper, Bhisey claimed that his father 'tempted him with money and position' if he agreed to a more conventional career. Pratt, 'India's First Native Inventor', p. 5.
 10. 'Patets [sic]', *Amrita Bazar Patrika*, 19 August 1895, p. 5; 'Inventions and Designs', *Amrita Bazar Patrika*, 10 August 1897, p. 5.
 11. 'A New Non-Refillable Bottle', *Scientific American*, 18 February 1899, p. 100; 'A Novel Weighing and Delivering Machine', *Scientific American*, 4 June 1898, p. 356; Pratt, 'India's First Native Inventor', p. 5; 'A Pioneer Indian Inventor', *Patents*, July 1899, p. 9.
 12. Abhidha Dhumatkar, 'The Indian Edison', *Economic and Political Weekly*,

- XLV: 42 (16 October 2010), pp. 69–70; Alfred Webb to Shankar Abaji Bhisey, 20 February 1895 in Jayant Balkrishna Kulkarni, *Doktar Bhise: vyakāṅi ani kārya* (Bombay: Popular Prakashan, 1969), p. 161.
13. 'Novel Entertainment at the Free-Trade Hall', *Manchester Courier and Lancashire General Advertiser*, 7 January 1896, p. 6; 'Amusements in Manchester', *Era*, 11 January 1896, p. 18.
 14. Shankar Abaji Bhisey, 'Some Suggestions to the Plague Committee', *Times of India*, 26 January 1898, p. 3.
 15. H.K. Tavaría, testimonial for Bhisey, 27 January 1899, National Archives of India (hereafter referred to as NAI), Dadabhai Naoroji Papers (hereafter referred to as DNP), B-126 (69); Bhisey to Naoroji, 8 June 1899, *ibid.*, B-126.
 16. Bhisey to Naoroji, 3 February 1903, *ibid.*, B-126 (22).
 17. R. P. Patwardhan (ed.), *Dadabhai Naoroji Correspondence*, Vol. II, Part II (New Delhi: Allied, 1977), p. 696.
 18. See, for example, Chapters 1 and 2 in Jim Masselos, *Towards Nationalism: Group Affiliations and the Politics of Public Associations in Nineteenth Century Western India* (Bombay: Popular Prakashan, 1974).
 19. *Dinshaw Edulji Wacha: His Life and Labors* (Madras: G.A. Natesan & Co., n.d.), p. 5; Behramji M. Malabari to Naoroji, 14 September 1886, NAI, DNP, M-32 (106).
 20. For more on Naoroji and Malabari's work on behalf of the *Voice of India*, see Chapter 9 in S.R. Mehrotra and Dinyar Patel (eds.), *Dadabhai Naoroji: Selected Private Papers* (New Delhi: Oxford University Press, 2016). Correspondence in the Dadabhai Naoroji Papers indicates Naoroji's financial management of *India*. See also S.R. Mehrotra, *A History of the Indian National Congress* (New Delhi: Vikas Pub. House, 1995), pp. 100–1.
 21. 'A Pioneer Indian Inventor', 8, 9.
 22. Bhisey to Naoroji, 5 July 1899, NAI, DNP, B-126 (1); Bhisey to Naoroji, 2 September 1899, *ibid.*, B-126, p. 2; Bhisey to Naoroji, 15 March 1901, *ibid.*, B-126 (5); Bhisey to Naoroji, no date, *ibid.*, B-126 (69).
 23. Patwardhan, *Dadabhai Naoroji Correspondence*, II, part II, pp. 810, 813–14.
 24. Bhisey to Naoroji, 13 June 1901, NAI, DNP, B-126 (7).
 25. Bhisey to Naoroji, 22 October 1901, *ibid.*, B-126 (12).
 26. Bhisey to Naoroji, 12 December 1902, *ibid.*, B-126 (20).
 27. For further details on the Spasotype, see Bapurao S. Naik, *Typography of Devanagari*, Vol. 2 (Bombay: Directorate of Languages, 1971), pp. 378–9.
 28. Bhisey to Naoroji, 22 October 1901, NAI, DNP, B-126 (12).

29. Henry M. Hyndman to Naoroji, 26 August 1884, *ibid.*, H-221 (9).
30. Hyndman to Naoroji, 3 January 1902, *ibid.*, H-221 (103); Mehrotra and Patel, *Dadabhai Naoroji*, p. 75.
31. Shanker [Shankar] Abaji Bhisey, Improvements in Bust-improving Devices, British Patent Office 12,358 (London, filed 14 June 1905, and issued 14 June 1906); Bhisey to Naoroji, 3 February 1902, NAI, DNP, B-126 (22); Bhisey to Naoroji, 7 December 1904, *ibid.*, B-126 (39); Bhisey to Naoroji, 16 December 1904, *ibid.*, B-126 (40).
32. Richard E. Huss, *The Development of Printers' Mechanical Typesetting Methods, 1822–1915* (Charlottesville: University Press of Virginia, 1973), p. 247.
33. Lucien Alphonse Legros and John Cameron Grant, *Typographical Printing-Surfaces: The Technology and Mechanism of Their Production* (London: Longmans, Green and Co., 1916), 316; Naik, *Typography of Devanagari*, Vol. 2, p. 381.
34. Bhisey to Naoroji, 7 April 1905, NAI, DNP, B-126 (41).
35. Bhisey to Naoroji, 11 April 1906, *ibid.*, B-126 (43); Bhisey to Naoroji, 16 December 1904, *ibid.*, B-126 (40).
36. In a financial agreement between Bhisey and Naoroji from February 1910, Bhisey mentioned that the total capital of Bhisotype Limited, plus interest, totalled £1,500. Bhisey to Naoroji, February 1910, *ibid.*, B-126 (65).
37. *Ibid.*
38. Hyndman to Naoroji, 31 July 1908, *ibid.*, H-221 (130); Bhisey to Naoroji, February 1910, *ibid.*, B-126 (65).
39. Homi M. Dadina to Bhisey, 6 November 1908, *ibid.*, B-126 (58); Bhisey to Naoroji, 2 October 1908, *ibid.*, B-126 (57).
40. Dadina to Bhisey, 6 November 1908, *ibid.*, B-126 (58); Bhisey to Naoroji, 16 December 1908, *ibid.*, B-126 (3).
41. Gopal Krishna Gokhale to Ratan J. Tata, 12 May 1909, *ibid.*, G-64 (21); Gokhale to Tata, 12 May 1909, *ibid.*, G-64 (22); Tata to Gokhale, 14 May 1909, *ibid.*, G-64 (23); Gokhale to Tata, 16 May 1909, *ibid.*, G-64 (23).
42. Bhisey to Naoroji, 16 July 1909, *ibid.*, B-126 (60).
43. *Ibid.*, Bhisey to Naoroji, February 1910, *ibid.*, B-126 (65).
44. Bhisey to Naoroji, February 1910, *ibid.*, B-126 (65); Homi M. Dadina [?] to Bhisey, 22 February 1910, *ibid.*, B-126 (64).
45. Bhisey to Naoroji, 4 August 1916, *ibid.*, B-126 (68).
46. *Bhisotype*, pp. 4, 8–10.
47. Bhisey to Naoroji, 4 August 1916, NAI, DNP, B-126 (68).
48. Kulkarni, *Doktar Bhise*, pp. 84–5, 201.
49. Sunkar A. Bisey [Shankar Abaji Bhisey], 'World Peace', *East-West*, 2: 5

- (1927), p. 14; 'Indian Inventor in America: Mr. Bhisey Honoured', *Times of India*, 4 August 1927, p. 13.
50. Kulkarni, *Doktar Bhise*, pp. 101–5; Huss, *The Development of Printers' Mechanical Typesetting Methods*, p. 250.
51. Bhise to B.S. Kulkarni, 19 June 1931 in Kulkarni, *Doktar Bhise*, p. 201.
52. W.M. Estep to Bhisey, no date, in *ibid.*, p. 221.
53. One such review disputed the claims made by its distributor, Schieffelin and Company of New York, that atomidine could be used to treat hypertension, gastrointestinal diseases, and various infections. 'All of these claims are made without a scintilla of printed scientific evidence,' it noted. 'Atomidine', *Journal of the American Dental Association*, 16: 1 (January 1929), p. 168.
54. Cayce explained the utility of atomidine in one of his 'readings': 'The Atomidine adds the vibrations to minimize the pain that is active in the movement of poisons through the channels of the superficial circulation, or perspiratory system; as well as to set up drainages in the circulatory system for the eliminating of drosses through the dross channels, as well as the general circulation.' Thomas Sugrue, *There Is a River: The Story of Edgar Cayce* (Virginia Beach: A.R.E. Press, 1973), 245, 250. Atomidine is currently manufactured by the Heritage Store, which sells health products recommended by Cayce. See <http://heritagestore.com/atomidine-2oz-liquid.html>, last accessed 3 July 2017.
55. 'Tributes to the Late Dr. Bhisey', *Times of India*, 10 April 1936, 22.
56. Bhisey to Naoroji, 13 June 1901, NAI, DNP, B-126 (7).
57. The deputation which met with Lord Crewe, the secretary of state for India, was headed by Mancherji Bhownaggee. 'Opening of India House', *Amrita Bazar Patrika*, 26 July 1905, p. 4; 'Indians in London: Reception at the "Criterion"', *Leader*, 15 August 1913, p. 7; 'Bombay and Sir William Wedderburn', *Leader*, 30 July 1912, p. 7; 'British Indians: Their Grievances in South Africa', *Manchester Guardian*, 2 December 1913, p. 5.
58. Bhisey to Naoroji, 16 July 1909, NAI, DNP, B-126 (60).
59. Bisey [Bhisey], 'World Peace', p. 14. In his autobiographical work, Mahendra Pratap recalls meeting Bhisey in June 1930: 'Dr. Bisey, the illustrious Indian scientist took special trouble to take me out to his country home for a regular Indian meal. His home with Indian hostess and children had [a] complete Indian air to the last finish.' Pratap, *My Life Story of Fifty-five Years (December 1880 to December 1941)* (Delhi: Rajhans Press, 1947), p. 167.
60. 'Indian Scientist's Discoveries', *Hindustan Review* 53: 304 (October 1929), p. 400.