

# **Patent Politics**

*The Pharmaceutical Industry, Technology Transfer, and the Fight for India's 1970  
Patent Act*

Karuna Vikram

Advisor | Professor Elizabeth Blackmar  
Second Reader | Professor Manan Ahmed

Department of History  
Columbia University in the City of New York  
April 5, 2022

## Table of Contents

<b>ACKNOWLEDGEMENTS.....</b>	<b>3</b>
<b>INTRODUCTION .....</b>	<b>4</b>
<b>CHAPTER I: POLITICAL CULTURE OF PROGRESS: HEALTH, TECHNOLOGY, AND INTELLECTUAL PROPERTY .....</b>	<b>8</b>
NEHRU'S SCIENCE.....	11
PATENTS ENTER THE PICTURE.....	15
THE FIRST ANTIBIOTICS FACTORY .....	19
<b>CHAPTER II: ALL EYES ON INDIA .....</b>	<b>24</b>
SAHIB SINGH SOKHEY .....	25
BATTLE FOR HINDUSTAN (ANTIBIOTICS).....	29
EYES ON AMERICA.....	34
INDISSOLUBLE SOVIET-INDIAN FRIENDSHIP?.....	37
<b>CHAPTER III: PATENT POLITICS AND DEFINING THE NATION .....</b>	<b>40</b>
AYYANGAR COMMITTEE.....	41
KEFAUVER'S UNINTENTIONAL INTERVENTION.....	43
CHANGING TIDES.....	50
RISING NATIONAL FEELING .....	51
INDIGENOUS PHARMA STRIKES BACK .....	54
<b>EPILOGUE.....</b>	<b>58</b>
<b>BIBLIOGRAPHY.....</b>	<b>62</b>

## Acknowledgements

Thank you to Professor Elizabeth Blackmar, who has been a mentor and inspiration since I had the good fortune to take her seminar in junior year. Thank you for believing in my capabilities as a historian even when I wavered, and for pushing me to be a braver thinker and a better writer. I would also like to thank my Second Reader, Professor Manan Ahmed, who has bookended my experience at Columbia. On the first day of college, his class made me question the construction of past, present, and future. I am grateful to have had his steady support—and humor—from then on.

The ideas for this essay were sown in Professor David Rosner's radical seminar, and I am thankful to him for his unwavering encouragement. I am also grateful to Professors Pamela Smith and Matthew Jones, who generously gave me feedback and pointed me to invaluable sources, helping me gain a foothold in the rich history of science.

Beyond Columbia, I am deeply indebted to Professor Debjani Bhattacharyya, who taught me how to do archival research and to stick with it through the highs and lows. I am also thankful to Ella Müller and the other graduate students at the Center for Social and Economic History at the University of Zürich, who were such kind and inspiring company. Thank you also to Professors Mario Biagioli, Madhavi Sunder, and Nandini Bhattacharya for your expert opinions on intellectual property law and medicine.

My research would not have been possible without the generosity of the ThinkSwiss Fellowship and the History Department's Fellowship for Research in European Archives. I thank Professors Charly Coleman and Lisa Tiersten, Heath Rojas, and my peers at the Paris workshop for their feedback.

Thank you to my classmates in my thesis seminar for your support. Maya and Jack, thank you for being such cheery and thoughtful thesis buddies; you really made all the time in Butler fun. To my friends who have been hearing about this essay for the past year, I could not have done it without your patience, love, and laughs in H802 and beyond.

Lastly, I owe this, as everything, to my family. I thank my parents for teaching me to do what I love, and for giving me one half each of the history of science.

I dedicate this thesis to my grandparents, *thatba* and *thatbi*, my first teachers.

**உங்களை போல் யாரும் இல்லை**

## Introduction

The Lok Sabha, India's lower house of parliament, called for a special Saturday sitting on August 29, 1970. After nearly seven hours of deliberation, the members unanimously passed one of the most radical patent laws in the post-war world. The 163 clauses of the Patents Act, 1970 had one goal: to ensure the "availability of technology on reasonable terms."<sup>1</sup> The meek proclamation concealed an aggressive and targeted reconstitution of India's patent laws for medicines, food, and agricultural chemicals that would propel India to become the pharmacy of the world through the next three decades.

Moving away from the intellectual property conventions in the West, the Patents Act, 1970 banned product patents on all food and medicines. All pharmaceutical plants in India were now allowed to produce any existing drug product so long as they used a unique method of manufacture. The bill also reduced the term of process patents—patents on the methods of manufacture—for food and medicine from sixteen to seven years. The introduction of licenses of right further weakened patent monopolies as any person or company could use the patented process three years after the patent was granted by paying the patentee a small royalty.<sup>2</sup> India's Minister of Industrial Development, Dinesh Singh, announced to newspapers that the new patents act would be a landmark in the industrial development of the country, liberating it from the yoke of international cartels.<sup>3</sup> India was to be free to provide affordable medicines to her poor, and become an example for other developing countries whose industry and health were suffering because of foreign monopolies and inadequate technology transfer.

---

<sup>1</sup> "Rajya Sabha Passes Patents Bill," *Times of India*, September 4, 1970.

<sup>2</sup> Previously, firms had to convince the Controller of Patents that the patentee was abusing its monopoly in order to be allowed to pay and use the patent. The royalty was of up to four per cent of the product's sales prices.

<sup>3</sup> "Patents Bill Passed Unanimously in Lok Sabha," *Times of India*, August 30, 1970.

Neither the problems nor the solution, however, were new. Merely a year after India declared independence in 1947, the new government began to seriously examine the possibility of doing away with patents for pharmaceutical innovations.<sup>4</sup> The reports of several government committees on patents, the pharmaceutical industry, and national health from 1948 to the early 1950s identified the same issues as the 1970 legislation: Indian patent laws offered asymmetrically strong protections to foreign multinational corporations while severely inhibiting the development of the domestic manufacturing sector, thereby denying affordable medicines to India's sick and poor.<sup>5</sup> Nevertheless, it took over two decades, two patent enquiry committees, and four legislative efforts for India to pass comprehensive patent reform. This essay explains why.

Existing literature on patents in postcolonial India has largely looked at the 1970 Patents Act as a starting point. The few texts that focus on the 1970 Patents Act are written by lawyers and legal historians who map the long arc of patent legislation in India. In this framework, the 1970s bill signals the dawn of a new intellectual property (IP) regime that was eventually challenged by Western forces in the form of universal IP standards as codified by the Trade-Related Aspects of Intellectual Property Rights (TRIPS). The most comprehensive overview of the evolution of patents in India is given by IP lawyers Prashant Reddy and Sumathi Chandrashekar who present a granular dissection of the political debates and legal rhetoric surrounding IP law from independence to the 1990s. Covering patents, copyright, and trademarks, the book is the first to outline a general timeline of significant IP legislation and break down the legal terminology for a general public. While Reddy focuses on politics, Sudip Chaudhuri—an engineer and professor of management—focuses on patents and industry and India, describing the rise and interests of the pharmaceutical industry in

---

<sup>4</sup> Prashant Reddy and Sumathi Chandrashekar, "Indian Patent Law Declares Independence," in *Create, Copy, Disrupt. India's Intellectual Property Dilemmas* (Oxford University Press India, 2017), 1.

<sup>5</sup> Uday S Racherla, "Historical Evolution of India's Patent Regime and Its Impact on Innovation in the Indian Pharmaceutical Industry," in *Innovation, Economic Development, and Intellectual Property in India and China*, 2019, 276.

## Vikram 6

India from the colonial era to TRIPS. Another IP lawyer, Janice Mueller, sheds light on the international context of India's IP legislation, viewing patent policy from the colonial era to 2005 as a reflection of India's journey from colonial domination, to independent nation, to emerging superpower.<sup>6</sup>

In all these texts, the 1970s Patent Act is examined as but a radical moment in a grander narrative of patent reform in India. An examination of the period leading up to the Patents Act reveals a rich history tied to Prime Minister Jawaharlal Nehru's nation building project, Cold War competition, and the unintentional consequences of a U.S. senate report. The debate around patents in newly independent India was inextricably tied to the dream of a modern, self-reliant nation propelled by scientific innovation.

Science was the cure for ill health and poverty in Nehru's India, and thus patent reform entered the conversation as a tool to improve the terms of technology transfer from the West, promote domestic industry, and tend to the health of poor Indians. Although a few scientists, politicians, and jurists were interested in these ideas, the government's attention was focused on gaining cutting edge technology to build an indigenous pharmaceutical industry that could compete with foreign multinational corporations. With the Cold War as a backdrop, biochemist and politician Sahib Singh Sokhey spearheaded negotiations with the USSR for economic aid and open technological knowledge exchange. With Soviet help, India hoped to establish state of the art factories in an effort to produce lifesaving medicines for its population. The Indian State soon discovered that these development measures were not enough. Scientists and politicians began to realize that India's new pharmaceutical plants could not produce most drugs, or at least not without paying huge royalties, under existing patent laws. Striking when the iron was hot, Sokhey used U.S.

---

<sup>6</sup> Janice M Mueller, "The Tiger Awakens: The Tumultuous Transformation of India's Patent System and the Rise of Indian Pharmaceutical Innovation," *U. Pitt. L. Rev.* 68 (2006): 491, 495.

Senator Kefauver's report on pharmaceutical patent monopoly to push patent reform as the solution to both India's public health and pharmaceutical production goals.

In this thesis, I use government reports, parliamentary debates, political speeches, legal cases, and newspaper articles to argue that the story of technoscience and public health in independent India is incomplete without patent politics. India took over two decades to pass patent reform because of changing political attitudes towards the role of technology, foreign aid, and industrial development in improving access to affordable medicines for India's poor. When viewed in the same history as India's accession to TRIPS, the 1970 Patents Act seems to align with Minister of Industrial Development, Dinesh Singh's portrayal of the bill as liberating India from a neo-colonial economic order. While there is no doubt that the bill was radical and rebellious, its story was not of a struggling nation overthrowing an oppressive and archaic colonial regime. Using Sokhey's patent activism, I show that patent debates were shaped by a new nation's desire to invest in technoscience not only to better the health of its population, but also to gain scientific and economic prestige on the international stage. The journey from Nehru's ideology of unrestricted knowledge and science for the people to the 1970 Patent act was made possible by politicians and scientists realizing that patent reform was needed for India's new technological know-how and productive capabilities to actually produce affordable medicines.

## Chapter I: Political Culture of Progress: Health, Technology, and Intellectual Property



*Jawaharlal Nehru at the opening ceremony of the National Physical Laboratory, New Delhi (January 1950). Also in the picture are C. Rajagopalachariar (Governor-General of India), Sardar Vallabhbhai Patel (Deputy Prime Minister), Dr. Shyama Prasad Mookerjee (Union Minister of Industries and Supplies), Dr. S.S. Bhatnagar (Director, Council of Scientific and Industrial Research), and Dr. K.S. Krishnan (Director, National Planning Committee).*

Sitting in a jail cell in the hills of Dehra Dun, the man who would lead Indian independence composed dozens of pages to his daughter on the importance of a scientific temperament, Galileo's conflict with the Church, and Einstein's Theory of Relativity. Jawaharlal Nehru was jailed for almost a year in 1933 in connection with organizing the civil disobedience movement in India to oust the British. These months provided Nehru with ample opportunity to engage intensely with philosophical and historical texts and reflect on the qualities of successful societies through the ages as India struggled to be free. Finally, as India won independence on August 15, 1947, hope for a new era hung in the air. Specifically, a sense of historic opportunity colored the discourse around public

---

<sup>7</sup> Jawaharlal Nehru, "The Real Meaning of Science," in *Jawaharlal Nehru on Science and Society: A Collection of His Writings and Speeches* ed. Baldev Singh (Nehru Memorial Museum and Library, New Delhi, 1988), 22.

health at the moment of independence.<sup>8</sup> As historian Sunil Amrith observes, “A new utopia, a world without disease, seemed within reach.”<sup>9</sup>

Science and technology played an important role in Nehru’s imagination of this new world. Nehru asserted that the key to comprehensive economic and social development in India lay in the results of scientific and technological enquiry.<sup>10</sup> At the same time, he understood that India’s existing base of scientific technology and know-how was not sufficient to realize these goals. Nehru’s vision of science built for society, and society built for science was picked up by other scientists who were involved in politics. Scientists heading the National Planning Commission’s subcommittee on National Health used Nehru’s emphasis of scientific research and technological development in the pharmaceutical space as a jumping off point to argue that scientific innovation couldn’t be the savior if the Indian people did not have access to novel drugs and medical discoveries. Ensuring access to the products of technoscience required the state-ownership of the pharmaceutical industry and busting drug price gouging by banning patents in medicines.

The historiography of health and medicine in newly independent India largely sits in two camps. Historians have usually examined this moment either through public health policy, or through the Nehruvian push for funding industry research in drug discovery and production. Writing a social history of medicine, historian Sunil Amrith reveals a political culture of medicine in newly independent India that was fraught with contradictions. These tensions, he argues, explains the state’s relative ineffectiveness in the field of public health.<sup>11</sup> Amrith sets out to explain why, despite being highly interventionist in many spheres, the Indian state since independence spent a

---

<sup>8</sup> Sunil Amrith, “Political Culture of Health in India: A Historical Perspective,” *Economic and Political Weekly*, 2007, 114–21, 114.

<sup>9</sup> Amrith, “Political Culture of Health,” 114.

<sup>10</sup> Nasir Tyabji, “Gaining Technical Know-How in an Unequal World: Penicillin Manufacture in Nehru’s India,” *Technology and Culture* 45, no. 2 (2004): 331–49, 331.

<sup>11</sup> Amrith, “Political Culture of Health,” 114.

smaller proportion of its resources on public health than just about any other government in the world.<sup>12</sup> Analyzing the National Planning Committee's vision for public health, Amrith shows that the nationalist commitment to public health drew on a wide array of imperatives, ranging from championing universal rights and radical economic reform, to managing the proliferating numbers of the poor.<sup>13</sup> These huge social goals were not achieved because the Indian state treated the health of the people as an instrument to reach its broader goals; policy and technology became an end in itself, trumping the value of health.<sup>14</sup>

In the second camp, historian Nasir Tyabji sketches the technological story, arguing for the centrality of technological development to the story of India's political development. Focusing on pharmaceutical production, Tyabji details the negotiations between India, foreign pharmaceutical firms, and post-war development organizations like the United Nations and highlights the state's great enthusiasm to set up public sector pharmaceutical plants.<sup>15</sup> Indeed, Tyabji implies that the Indian government's end was solely science and technology, represented by emerging institutes and factories for drug research and production.

This chapter tells the story of public health and industrial development together, with patents as a bridge between the two camps. The chapter shows how the planning commission applied Nehru's rhetoric of science as a tool for ending poverty, illiteracy, and disease by moving away from patents and privatization in the pharmaceutical space. The planning commission's recommendation that patents be banned for medicines necessarily went hand-in-hand with the subsequent efforts to fund state run pharmaceutical plants. No real effort could be made to repeal patent laws without a robust and independent indigenous pharmaceutical sector. Finally, the

---

<sup>12</sup> Amrith, "Political Culture of Health," 114.

<sup>13</sup> Ibid, 119.

<sup>14</sup> Ibid.

<sup>15</sup> Tyabji, "Gaining Technological Know-How," 331.

establishment of the first antibiotics factory cemented the government's stance on prioritizing scientific and industrial development as a state sponsored project and as a goal separate from public health.

These debates reveal the dilemmas of a nation that wanted to take up big technoscience and to lead the world, while also trying to solve domestic issues like poverty, ill health, and undernutrition. For example, the problem of ill-health caused by common diseases like cholera and the plague were seen as issues of access to medicine, for which the state wanted to open new drug manufacturing and research centers. They were not primarily cast as problems of sanitation or smaller-scale education campaigns. Thus, the debate around public health and technoscience revealed a particular developmentalist vision. India aspired to be a site of research which had value internally for population, but also externally, as a negotiating tool of scientific and economic prestige on the international stage.

### **Nehru's Science**

On January 21, 1951, Prime Minister Nehru inaugurated the National Physical Laboratory in New Delhi. The occasion marked the beginning of Nehru physically building up his vision of science in India. For Nehru, science was crucial for industry and development, but it was also not limited by them. He believed that science was a “romance that he wanted everyone to experience and live,” and he wanted to create an India where the public could interact with science to fulfill his dream of a modern, self-reliant nation.<sup>16</sup> Nehru worked tirelessly and intimately with scientists to establish the Council of Scientific and Industrial Research which went on to found a network of twenty-two “national laboratories” between 1948 and 1958. Nehru was personally present at the inauguration of most of these.

---

<sup>16</sup> S Irfan Habib, “Legacy of the Freedom Struggle: Nehru's Scientific and Cultural Vision,” *Social Scientist* 44, no. 3/4 (2016): 29–40, 30.

At the inauguration of the National Physical Laboratory, which was one of the new labs opened under the Council, Nehru's personal involvement with the enterprise of science is clear in his speech on the "real meaning of science." Nehru proposed that science had a philosophical nature; that it was more than a means for discovery or a tool for industrialists to build their wealth. The basic goal of science was quite human: "to teach us to think straight and act straight – not to be afraid of anything, of discarding anything or accepting. Anything, provided we have sufficient reason to do so. I should like our country to understand and to appreciate, that idea."<sup>17</sup> Nehru saw science as the natural agent of economic progress and as a great instrument to bring about a holistic transformation in the lives of citizens and Indian society.<sup>18</sup>

It was Nehru's distinctive vision of a modern India built on science, and scientific progress to uplift everyday Indians, that made his ideology so powerful and enduring. The breadth of the Nehruvian vision united a range of Indian politicians and scientists like Sardar Patel, Maulana Azad, B.R. Ambedkar, Sarojini Naidu, Homi Bhabha, Meghnad Saha, Vikram Sarabh, Amrit Kaur, and Sahib Singh Sokhey in imagining a modern Indian nation committed to scientific development as well as democratic ideals.<sup>19</sup> According to historian Irfan Habib, Nehru became not just an individual, "but a symbol of an ethos collectively agreed upon by a large number of national leaders, scientists, cultural figures and social activists."<sup>20</sup>

Nehru's name, and scientific and cultural vision continued to be invoked by both supporters and critics of state intervention in pharmaceuticals and patent reform. Consequently, it is crucial to understand the nuances of what historian David Arnold dubs "Nehruvian Science" in order to dissect these debates. Arnold argues that Nehru's personal engagement with science explained why

---

<sup>17</sup> Jawaharlal Nehru, "The Real Meaning of Science," in *Jawaharlal Nehru on Science and Society: A Collection of His Writings and Speeches* ed. Baldev Singh (Nehru Memorial Museum and Library, New Delhi, 1988), 74.

<sup>18</sup> Habib, "Legacy of the Freedom Struggle," 31.

<sup>19</sup> *Ibid*, 29.

<sup>20</sup> *Ibid*, 30.

science received such intense and engaged public validation in the 1950s and 60s.<sup>21</sup> This essay uses the term Nehruvian Science to encapsulate the public attitude towards science at independence, as well as the relationship between the technological and public health welfare goals of the developmentalist state.

Nehru saw science as the sole solution for India's problems of ill health and poverty.<sup>22</sup> Writing from his jail cell in 1933, Nehru instructed his teenage daughter Indira: "Look around you, and you will find that most of the things that you can see are somehow connected with science... without science there would not be enough food for the world's population, and half of it, or more, would die off from starvation."<sup>23</sup> In 1937, Nehru declared to a crowd that "It was science alone that could solve these problems of hunger and poverty, of insanitation and illiteracy, of superstition and the deadening custom and tradition, of vast resources running to waste, of a rich country inhabited by starving people."<sup>24</sup> According to Nehru, India had been slowly decaying for millennia, and science was to be her savior.

Upon independence, Nehru put into effect an eightfold increase in the national science budget between 1948-49.<sup>25</sup> Science in this context meant biomedicine and atomic science. In the decade after the second world war, the world was enraptured by antibiotics and sulpha drugs whose benefits were suddenly visible through military medicine.<sup>26</sup> For India, the second World War also brought into sharp relief the gaps in medical infrastructure in the subcontinent in terms of access to these new drugs. While in the late 1930s, reports from the office of the Director General of Indian Medical Services had emphasized the acute shortage of qualified doctors in India—there was

---

<sup>21</sup> David Arnold, "Nehruvian Science and Postcolonial India," *Isis* 104, no. 2 (2013): 360–70, 361.

<sup>22</sup> *Ibid.*

<sup>23</sup> Nehru, "The Real Meaning of Science," in *Jawaharlal Nehru on Science and Society*, 74.

<sup>24</sup> Arnold, "Nehruvian Science," 366.

<sup>25</sup> Arnold, "Nehruvian Science," 361. The increase was between 1948–1949 and then again in 1958–1959.

<sup>26</sup> Bhattacharya, "Drugs for the Nation," in *Disparate Remedies: Making Medicines in Modern India* (Quebec, Canada: MQUP, 2023), 3.

approximately one doctor for every 10,000 people—and the need for primary health care centers and preventative health programs, the second World War introduced indigenous pharmaceutical production as another factor crucial to the health of the Indian citizen.<sup>27</sup>

India had to import most pharmaceuticals as well as surgical instruments during the war, and as the war escalated in Europe in 1941, supplies to India dried up.<sup>28</sup> In response, the Government of India launched a full effort to strengthen the Indian domestic pharmaceutical industry. Indian drug and surgical instrument manufacturers hastily consolidated themselves into a trade association, and the Government of India supervised the accelerated production of sera, summoned drug manufacturers for information on their existing capacity, and discussed how to extend the production of drugs.<sup>29</sup>

By the start of the 1950s, encouraging indigenous pharmaceutical research and production became a core part of the Nehruvian vision. Nehru believed that drug research would be economically transformative for India, domestically and internationally. Addressing a gathering of medical historians from the Commonwealth and the United States, he asserted that the second World War had “given a tremendous push to progress in the sphere of technology generally and in the art of healing.”<sup>30</sup> Nehru enthusiastically backed new drug plants, and in a 1951 speech at the opening ceremony for the Central Drug Research institute, he discussed how producing drugs in India would not only help poor Indians access medicines, but would also place India as a leader on the main stage: “I am in favor of it partly for obvious reasons that we are importing drugs from all other places and from foreign countries – very expensive things, and very necessary things in the life of today, and we should produce them ourselves. Secondly, because I think that by our research

---

<sup>27</sup> Bhattacharyya, “Drugs for the Nation,” in *Disparate Remedies*, 5.

<sup>28</sup> *Ibid.*, 6.

<sup>29</sup> *Ibid.*, 7.

<sup>30</sup> Nehru, “The Destructive and Constructive Aspects of War and the Medical Profession,” in *Jawaharlal Nehru on Science and Society*, 90.

work, we can find out new methods of doing things, new drugs possibly for treating or curing disease etc. not only for ourselves but also for the world.”<sup>31</sup> For Nehru, public sector pharmaceutical development fulfilled two subgoals in his scientific and cultural vision of a new India; it provided the potential to improve daily life through cheaper medicines and, with novel drug research, establish India as an actor on the world stage.

### **Patents Enter the Picture**

Nehru implemented his vision of state sponsored science by inviting scientists to participate in the politics of nation building.<sup>32</sup> Though Nehru was the political face for the post-independence shift in economic policy, his ideology and policies were deeply influenced by a circle of scientists he involved in the process of nation-building. Among them were S. S. Bhatnagar, director-general of the Council of Scientific and Industrial Research, P. C. Mahalanobis, the statistician behind India’s planning regime, Homi K. Bhabha, chair of India’s Atomic Energy Commission, and S.S. Sokhey, the head of the Haffkine Institute—a bacteriology research center—and Assistant Director-General of Technology Services at the WHO.

In 1938, Nehru appointed S.S. Sokhey as chair of the National Health division of the National Planning Committee. Established by Indian revolutionary Subhash Chandra Bose and chaired by Nehru, the goal of the National Planning Committee was to set up a series of five-year plans to ensure a sufficient standard of living for Indians. The Planning Committee set out to achieve these goals by prioritizing the social and economic development of the country, but also by looking to emulate the goals and plans of other countries. The committee’s work was interrupted many times between their formation and when they released their report in July 1947, a few weeks before India officially declared independence. The committee had been derailed by Nehru’s nearly

---

<sup>31</sup> Nehru, “Essentiality of Drug Research,” in *Jawaharlal Nehru on Science and Society*, 90.

<sup>32</sup> Bhattacharya, “Drugs for the Nation,” in *Disparate Remedies*, 1.

year-long imprisonment in 1940 and the threat of Japanese invasion in WWII. Finally in 1947, the committee announced its plan for social and economic divisions such as ‘agriculture,’ ‘chemicals,’ ‘rural marketing and finance,’ ‘education,’ and ‘women’s role in planned economy.’<sup>33</sup>

The Sub-Committee on Health was appointed to consider both demographic and technological questions. They were tasked to evaluate the standards of nutrition for all classes of population, the nature of diseases which most struck the population, infant mortality and birth/death rates, and the “cultivation of the necessary drugs and production of medicines for preventative or curative aid.”<sup>34</sup> The report on National Health opened by describing the sorry state of the health of the Indian population: “every observer since the middle of the last century at any rate has noticed that the people of India in general are of poor physique, low vitality, and of short life-span.”<sup>35</sup> The committee strongly believed that the root cause of these horrible indices was found in the destitute poverty of the people, which prevented them from having sufficient nutrition, clothing, and shelter.<sup>36</sup> Per capita income per annum was Rs. 80—this would be the equivalent of \$19.2 1947 dollars, which is a little less than \$270 in 2022 dollars.<sup>37</sup> These wages meant that most did not have any money left over to spend on “clothing or shelter, not to speak of education or amusement.”<sup>38</sup>

The commission stated that even though scientific and technological progress had eliminated small-pox and provided inoculation against plague and remedies for malaria, tuberculosis, and leprosy, these benefits did not exist for those without adequate wealth. Thus, the “tragedy of low vitality and long suffering becomes grimmer and greater, because it is all so unnecessary, so easily

---

<sup>33</sup> “National Health,” National Planning Committee Series (Government of India, December 1948), 2.

<sup>34</sup> *Ibid.*, 6.

<sup>35</sup> *Ibid.*

<sup>36</sup> *Ibid.*

<sup>37</sup> *Ibid.*

<sup>38</sup> *Ibid.*

avoidable, so effectually curable.”<sup>39</sup> Because of India’s poor population, the question of access was imbued in the conversations around technological and scientific progress from the time of independence.

Access was to be addressed by patents and the public sector. The Planning Commission focused their attention on “proprietary remedies” and monopoly in the drug industry as the cause of prohibitive prices.<sup>40</sup> They stressed that “we are very definitely of the opinion that no secret remedies, remedies whose exact composition is not disclosed on the label in the clearest possible terms, should be allowed to be sold.”<sup>41</sup> The committee declared a radical stance on patents, recommending that no Indian or foreign firm be allowed to hold patent rights for the preparation of any substance useful in human or veterinary medicine.<sup>42</sup> Patent rights, they believed, had been established as a monetary incentive for inventors, but now, “with the development of monopoly trusts the patent rights have assumed very undesirable features.”<sup>43</sup> They were clear in their conclusion that “in state controlled medicine, patent rights for the manufacture of drugs and appliances have no place.”<sup>44</sup>

In the post war antibiotic craze, the Indian state urgently promoted research for import substitutions and research on the large-scale manufacture of drugs both of Indian and foreign origin within India. In line with the Planning Commission’s recommendations, there was a growing interest in legislation to curb the worst excesses of the patent medicine industry.<sup>45</sup> When India declared independence, the governing patent law was the Patents and Design Act, 1911 put in place by the British Raj. According to this act, there were no special restrictions on the patenting of chemicals,

---

<sup>39</sup> “National Health,” National Planning Committee Series (Government of India, December 1948), 6.

<sup>40</sup> Ibid, 26.

<sup>41</sup> Ibid.

<sup>42</sup> Ibid.

<sup>43</sup> Ibid.

<sup>44</sup> Ibid.

<sup>45</sup> Bhattacharya, “Drugs for the Nation,” in *Disparate Remedies*, 6.

food, and medicine. To investigate the pros and cons of changing this law, in 1948 the Government of India formed the “Patent Enquiry Committee” (Tek Chand Committee).

This committee was headed by retired Justice Bakshi Tek Chand, who had also been a member of the Constituent Assembly that drafted the Indian constitution. Somewhat surprisingly, after submitting an interim conclusion that all patents in these categories should be banned, the Tek Chand committee came up with comparatively feeble recommendations in 1950.<sup>46</sup> The committee articulated that India needed to balance its economic goals with its social goals and ensure cheaper drug prices. Tek Chand’s report also acknowledged that Indian patent laws offered asymmetrically strong protections to foreign multinational corporations while severely inhibiting the development of the domestic manufacturing sector, thereby denying affordable medicines to India’s sick and poor.<sup>47</sup> However, Tek Chand did not recommend that product patents in food and medicine should be banned, and instead suggested that compulsory licensing and an appellate body to oversee patents would suffice.<sup>48</sup>

Three years later, once again patent law came under scrutiny. Minister of Commerce, T.T. Krishnamachari introduced the Patents Bill, 1953, in the Lok Sabha “to ensure that patent rights are not abused to the detriment of the consumer or to the prejudice of the trade or of the industrial development of the country.”<sup>49</sup> However, the Government did not see patents as an urgent concern and did not press for the consideration of the bill. A 2007 Report of the Peoples’ Commission on Patent Laws for India disclosed that “if there was a genuine intention to pass the comprehensive bill through parliament it surely would have been only a matter of weeks before the bill was passed.”<sup>50</sup> The Patents Bill, 1953 was allowed to lapse with the dissolution of parliament.

---

<sup>46</sup> Racherla, “Historical Evolution of India’s Patent Regime,” 277.

<sup>47</sup> Ibid.

<sup>48</sup> Ibid.

<sup>49</sup> Reddy, “Indian Patent Law,” *Create, Copy, Disrupt*, 6.

<sup>50</sup> “Report of the People’s Commission on Patent Laws for India,” 7.

### **The First Antibiotics Factory**

The late 1950s showed the Indian government heeding the Planning Commission's second recommendation: using the public sector to improve access to drugs. The ensuing battle between the state and private industry was reflected in the fight to fund the first antibiotics factory in India. Indian firms lobbied intensely to partner with transnational firms to get the opportunity to open the first Indian antibiotic factory.<sup>51</sup>

India's private pharmaceutical industry was trying to find its niche after the war. In the years following the Second World War, Indian entrepreneurs hoped for technical collaborations with foreign firms. They soon found that collaboration was unavailable without offering up part-ownership in these new ventures.<sup>52</sup> Fortunately, the new Indian government was intent on supporting domestic industry. Nehru's administration implemented a policy of developing domestically owned and managed companies and introduced strict import controls to limit the supply of foreign goods to the Indian markets.<sup>53</sup> When the threat of import substitution industrialization—an economic policy that encouraged the development of domestic industries that could produce goods that were previously imported—loomed in later years, firms in advanced industrial countries became scared that their products might not make it to the Indian market all together.<sup>54</sup> In order to remain viable in India, these foreign firms—primarily from the U.S., UK, Germany, and Switzerland—agreed to license their products and their processes to Indian firms. Practically, this meant that Indian firms could basically lease the intellectual property rights of these products; the licensee was able to produce branded products or technology using the licensed intellectual property while paying the foreign firm a royalty or lump sum payment.<sup>55</sup>

---

<sup>51</sup> Bhattacharya, "Drugs for the Nation," in *Disparate Remedies*, 13

<sup>52</sup> Tyabji, "Gaining Technical Know-How," 333.

<sup>53</sup> Ibid.

<sup>54</sup> Ibid.

<sup>55</sup> Tyabji, "Gaining Technical Know-How," 333..

As India represented one of the largest markets in the world at the time, pharmaceutical companies like Pfizer, Glaxo, and Merck all contemplated licensing to Indian firms. All of them agreed to collaborate with Indian counterparts and facilitate the manufacture of penicillin in India. In 1950, Merck proposed a collaboration to establish the first penicillin manufacturing facility in India, a huge step from where technical exchange stood right after World War II.<sup>56</sup>

While negotiations went on with these three pharmaceutical firms, UNICEF and the World Health Organization (WHO) approached the Indian government with their own proposal for penicillin manufacture. Different from Merck's offer of technical assistance, this proposal envisaged the development of an antibiotic research and training center linked to the manufacturing facility.<sup>57</sup> Now, India would not just manufacture drugs, but also invent and improve them. In 1951, the Indian government signed on and took up WHO's offer to share technological know-how and support the costs to establish the research center.<sup>58</sup>

Unlike its predecessor, the League of Nations, which had focused primarily on Europe, WHO was focused on the third world from the outset. The organization's constitution declared that "the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition."<sup>59</sup> The constitution even acknowledged global health inequities, admitting that different countries were not equally developed in terms of health and disease control.<sup>60</sup>

In South Asia, WHO's medical aid generally focused on providing on-the-ground public health training. They sent training teams to screen and treat contagious diseases like venereal disease,

---

<sup>56</sup> Tyabji, "Gaining Technical Know-How," 334..

<sup>57</sup> Ibid.

<sup>58</sup> Bhattacharya, "Drugs for the Nation," in *Disparate Remedies*, 13.

<sup>59</sup> Amrith, *Political Culture of Health*, 117

<sup>60</sup> Ibid.

malaria, and tuberculosis, and established general and maternal health care centers across the country.<sup>61</sup> WHO also helped establish factories, collaborating with UNICEF to fund the Government of India to set up a DDT plant in 1954.<sup>62</sup> In return for financing these factories, WHO required that India supply DDT and penicillin at no cost publicly funded health programs. One can infer that WHO viewed the technical assistance as an investment in bettering India's public health.<sup>63</sup> The UN's primary concern was the day-to-day ailments of poor Indians, and the technological assistance was a means for India to become self-reliant in caring for this sector. Thus, with assistance from the WHO, Hindustan Antibiotics Limited was inaugurated on August 2<sup>nd</sup>, 1956 in Pimpri, Poona.

The establishment of Hindustan Antibiotics heralded two important changes in the discourse surrounding pharmaceuticals in India. Firstly, the partnership with WHO and UNICEF asserted an India that envisioned itself at the table with industrialized nations such as the United States, the United Kingdom, and Switzerland as an international center for drug research and manufacture. The WHO/UNICEF collaboration allowed Hindustan Antibiotics access to technical know-how rather than being tied to licensed production. Nehru's vision of an India which could innovate new methods of manufacturing novel drugs for not only for the nation but also for the world was starting to be realized.

Secondly, the state ownership of Hindustan Antibiotics set the government's stance on the place of scientific and industrial development in India as a state-sponsored project. Science was conducted for the people, "at the direction and discretion of the state."<sup>64</sup> On August 2, 1956, Prime Minister Nehru delivered a rousing speech at the inauguration of Hindustan Antibiotics. Nehru

---

<sup>61</sup> Bhattacharyya, *Drugs for the Nation, in Disparate Remedies*, 10.

<sup>62</sup> "Our History," UNICEF India, accessed April 3, 2023, <https://www.unicef.org/india/our-history>.

<sup>63</sup> Tyabji, "Gaining Technical Know-How," 338.

<sup>64</sup> Arnold, "Nehruvian Science," 366.

began by referencing the battle between WHO and foreign pharmaceutical companies to fund Hindustan Antibiotics. He concluded that state had made its choice that scientific industry in so far as it was judged crucial to the health and well-being of the Indian population would be a state sponsored affair. According to Nehru, “basic things” were to be state controlled and where possible, state owned.<sup>65</sup>

Although Nehru did not mention “patents” by name, he invoked the undergirding stakes of intellectual property debates in his position on indigenous drug manufacturing. Between the time that Hindustan Antibiotics was officially conceived in 1951 and when it began manufacturing drugs in 1955, the prices of drugs in India were one of the highest in the world.<sup>66</sup> Notably, almost all of these drugs were imported.<sup>67</sup> In his 1956 speech, Nehru was deeply concerned about the high drug prices:

Now, in regard to these antibiotics, penicillin etc. - in fact, in regard to any drugs also which are commonly used - there is a tendency, inevitable and I do not blame anybody, but there is and there can be a tendency to exploit the market. The prices go up, prices go down too when there is plenty available and so they shift about like that. We know in India even now that people just cannot get drugs that are necessary for them, because they cannot afford. That is not the right thing. Certain basic things should be available to everybody who needs them.<sup>68</sup>

Nehru seemed to think that private pharmaceutical firms would tend to engage in price gouging, which might be acceptable and allowed by the market, but was unfair to India’s poor. Nehru’s

---

<sup>65</sup> Nehru, “Speech at Hindustan Antibiotics, Pimpri, Poona, on August 12, 1956,” in *Jawaharlal Nehru on Science and Society*, 132.

<sup>66</sup> Bhattacharya, “Drugs for the Nation,” in *Disparate Remedies*, 13.

<sup>67</sup> *Ibid.*

<sup>68</sup> Nehru, “Speech at Hindustan Antibiotics, Pimpri, Poona, on August 12, 1956,” in *Jawaharlal Nehru on Science and Society*, 132.

opinion was marked by both a moral rhetoric based in a basic right to health, and economic rhetoric based in rising socialist influences in the Indian state—also dubbed Nehruvian socialism. Nehru dismissed private firms having “secret processes” —or in intellectual property terms, trade secrets and vague patents to block competition—as pure profiteering. On this basis, Nehru called for active state presence in the pharmaceutical world: “Therefore, it becomes necessary for the State to take to the manufacture of these basic drugs and I suppose this process will grow and continue in India.”<sup>69</sup>

Nehru acknowledged that patents, trade secrets, and intellectual property in general were being used by multinational firms in India to maintain prohibitive drug costs. However, like the Lok Sabha in 1953, Nehru was not yet interested in patent reform as a remedy to high prices. Nehru thought that with strong state-run pharmaceutical plants and cutting edge technology and innovation in drug development, the Indian poor would be able access affordable drugs.

The very next day on August 03, 1956, the *Times of India* published an article enthusiastically agreeing with Nehru’s stance on state-run pharmaceutical industry. In the context of medicines, the *Times of India* asserted that there should be no scope for price fluctuation in the market as that would people from obtaining medicines because of the expense, and it was “only right that such basic things were made available to all.”<sup>70</sup> The article also praised the research capabilities of Hindustan Limited, reporting that the institution would be able to hold post-graduate study in mycology, biochemistry, and microbiology, and be able to produce both penicillin and streptomycin in a year’s time. Finally, with these two crucial antibiotics being manufactured under state control through a “no profit, no loss basis,” the article stated that “the masses of India would have most of their needs of antibiotics met at a very low cost.”<sup>71</sup>

---

<sup>69</sup> Nehru, “Speech at Hindustan Antibiotics, Pimpri, Poona, on August 12, 1956,” in *Jawaharlal Nehru on Science and Society*, 132.

<sup>70</sup> “National Health Service: Mr. Nehru’s Hint at Pimpri,” *Times of India*, August 2, 1956.

<sup>71</sup> *Ibid.*

There was no mention of patents, monopoly, or intellectual property rights in relation to affordable medicine in this article, or generally in the press at this time. It would be a few years till attention shifted back to patents. For now, all eyes were on gaining cutting edge technology and technical know-how, and building up an indigenous pharmaceutical industry. The question of the moment was whether India would look to the East or the West for assistance.

## Chapter II: All Eyes on India

By the mid 1950s, the Cold War strongly colored debates about economic development in newly independent nations around the world, and India was no exception. By 1955, the Cold War economic powers were in a full-fledged aid competition in India.<sup>72</sup> In the *Price of Aid*, historian David Engerman links the underlying economic cold war to the dozens of newly decolonized nations in Africa and Asia creating new demands for economic assistance: “Decolonization left in its wake new governments that were ill equipped for the rapid transformation of their economies that they keenly sought. Given the sharp limits on domestic resources, these aims soon led officials in India (and throughout the Third World) to pursue external assistance.”<sup>73</sup> These demands for assistance were met by the superpowers: “the globalization of American and Soviet ideological competition after World War II created the dynamic for offering economic aid.”<sup>74</sup> In turn, the politics of aid became a tool for the developing world to push their own agendas. Engerman writes that “Those in favor of heavy industry in the public sector under central planning used the logic of Cold War competition to court Soviet aid. And those favoring integration into the capitalist world economy, freer markets, the private sector, and a focus on agriculture generally looked to the West.”<sup>75</sup> This tug of war was also

---

<sup>72</sup> David C Engerman, “The Price of Aid,” in *The Price of Aid* (Harvard University Press, 2018), 4.

<sup>73</sup> Engerman, *Price of Aid*, 5.

<sup>74</sup> *Ibid*, 6.

<sup>75</sup> *Ibid*, 9.

happening over the pharmaceutical sector in India where MPs on the left and right pushed their separate ideologies onto arguing for the supremacy of public versus private sectors. Scientists in the administration also used the rhetoric of economic aid to play the superpowers against one another to further their goal of growing India's technical know-how and industry.

### **Sahib Singh Sokhey**

On an official visit to the USSR in 1953, Sahib Singh Sokhey looked onto the staggering size of the wall of concrete that made up the Volga Dam, battered ceaselessly by churning white water. After a tour of industrial and medical sites around Moscow, Kiev, and Tashkent, Sokhey was determined to set up technology of a similar scale back in India.<sup>76</sup> Sokhey was a scientist and politician who was closely involved with shaping science and technology policy in independent India. A close confidante of Nehru's and the chair of the National Planning Commission's subcommittee on National Health, Sokhey lobbied hard for the revision of the Patents and Design Act, 1911 and helped establish many state-owned drug plants through the 1950s and 60s.<sup>77</sup>

Sokhey was interested in science from a young age, and after performing brilliantly in his undergrad at Government College, Lahore, left India to finish his degree in Tropical Medicine and Hygiene from the London School of Tropical Medicine in 1915. The Great War intensified as he returned, and Sokhey decided to serve as an Indian Medical Services officer in France and the Middle East till 1921.<sup>78</sup> After the war, Sokhey gained further international training and studied at Harvard on a Rockefeller Fellowship, refocusing his specialization in biochemistry. When he came back to India, Sokhey joined the Haffkine Institute as Assistant Director of the biochemistry

---

<sup>76</sup> Pratik Chakrabarti, "'Signs of the Times': Medicine and Nationhood in British India," *Osiris* 24, no. 1 (2009): 188–211, 14.

<sup>77</sup> Harkishan Singh, "Sahib Singh Sokhey (1887-1971): An Eminent Medico-Pharmaceutical Professional," *Indian Journal of History of Science* 51, no. 1 (2016): 238-247, 239.

<sup>78</sup> Singh, "Sahib Singh Sokhey," 239.

department in 1925, ultimately becoming the first Indian director of the institute in 1932. From this position, Sokhey was a part of the elite circle of scientists that were working with Nehru and other members of the Indian National Congress shaping science and public health policy in India.



*Sokhey (right) with Nobel Laureate C.V. Raman (left)*<sup>79</sup>

Sokhey travelled across the world to learn about cutting-edge drug research and technical advancements in drug production. By the 1920s, Sokhey had obtained degrees from Edinburgh and London, and his postgraduate studies had taken him to Hopkins, Harvard, and Toronto Medical school.<sup>80</sup> In order to make the country “self-sufficient in drugs,” Sokhey travelled across Europe and America in 1943 to seek funding to set up state run drug plants. Sokhey spent two months in the a penicillin plant in Toronto, learning new ways of producing penicillin through “deep fermentation.”<sup>81</sup> On his return to India, he submitted project plans to produce penicillin, sulphonamides, and antimalarial drugs. In 1948, Sokhey visited the United States again to update the

---

<sup>79</sup> Singh, “Sahib Singh Sokhey,” 239.

<sup>80</sup> World Health Organization, “Indian Scientist Named to High WHO Post,” 1950.

<sup>81</sup> Singh, “Sahib Singh Sokhey,” 239.

project plans of what would eventually become Hindustan Antibiotics. The scheme was approved by the Cabinet but caught in bureaucratic hurdles and ultimately was not implemented.<sup>82</sup> The Cabinet's report in response told Sokhey that his technical plans were fine, and he should put up the plant himself by obtaining funding from foreign firms.<sup>83</sup>

Sokhey's appointment to the WHO opened new doors for Hindustan Antibiotics. On 3<sup>rd</sup> March, 1950, a WHO press release titled "Indian scientist named to high WHO post" announced that Sokhey had been appointed Assistant Director-General of the World Health Organization.<sup>84</sup> In 1950, only one other person in India had this level of pull internationally to shape the future of health and medicine in India. Amrit Kaur was the first woman appointed to Nehru's cabinet and the first Health Minister of India. Like Sokhey, in 1950 she became a leader in the WHO as the president of the World Health Assembly. Importantly, Kaur was a politician in the field while Sokhey was a scientist, and their backgrounds shaped their goals. Kaur's focus was disease prevention through vaccination campaigns and setting up primary care. Sokhey, on the other hand, focused on the manufacture of vaccines and drugs, and sought foreign aid to invest in technology.

Both Kaur and Sokhey were concerned about drug prices, and in the mid 1950s, the problem of drug prices was seen as a direct result of the weak domestic pharmaceutical industry. High drug prices were attributed to foreign markups, import costs, and the lack of resources available domestically. Kaur was on the committee that produced the Report of the Pharmaceutical Enquiry Committee in 1954, which made almost no mention of patents. Instead, the Committee focused on import markup, reporting that the value of drugs and medicines imported had more than doubled between 1949 and 1951, from 78 million to 156 million rupees.<sup>85</sup> The report mainly

---

<sup>82</sup> Sahib Singh Sokhey, *The Indian Drug Industry and its Future*, SP Sinha, at New Age Printing Press, 1959, 8.

<sup>83</sup> Sokhey, *Indian Drug Industry*, 8.

<sup>84</sup> World Health Organization, "Indian Scientist Named to High WHO Post," 1950.

<sup>85</sup> "Report of the Pharmaceutical Enquiry Committee," Ministry of Commerce and Industry, Government of India, 1954, 9

identified the problem as a lack of Indian firms undertaking the production of drugs from basic chemicals. Drugs were either imported by foreign companies or resold by Indian firms that linked themselves to foreign firms. Using the foreign firms' trademarks and unnecessary intermediary processing, Indian firms would also increase the price of drugs.<sup>86</sup> Thus, even though there were almost double the number of Indian owned large scale private pharmaceutical factories as compared to foreign ones, drug prices were still out of control. Consequently, the Indian state decided state-owned drug plants would curb high prices. The Government focused on building and expanding Government owned plants, and ensuring these factories would have the technological capabilities to produce drugs from basic raw materials and chemicals.

Type of Factory	Total No. of Factories	Sale Value of Products Made in 1952 (rupees)
Major Government Factories	11	11,635,200
Large Scale Private Enterprise under Foreign Control and/or Collaboration	28	131,349,310
Large Scale Private Enterprise under Indian Management	54	133,829,473
Small Scale Private Enterprise (foreign and Indian)	1,550	70,000,000
<b>Total</b>	<b>1,643</b>	<b>346,813,983</b>

**Table 1:** Sale Value of Products in Pharmaceutical Factories by Category in India, 1952 (Taken from Report of the Pharmaceutical Enquiry Committee).<sup>87</sup>

In line with these goals, Sokhey was fighting hard to set up a penicillin plant controlled by the state. At WHO, Sokhey set up a "Section of Antibiotics" for member nations to request aid to set up antibiotic plants. Under this scheme, the WHO and UNICEF offered India 1.5 million and

<sup>86</sup> "Report of the Pharmaceutical Enquiry Committee," Ministry of Commerce and Industry, Government of India, 1954, 9

<sup>87</sup> Ibid, 21

the technical know-how to set up Hindustan Antibiotics.<sup>88</sup> In a 1959 pamphlet entitled “The Indian Drug Industry and It’s Future,” Sokhey lamented that although Hindustan Antibiotics marked a big win for self-sufficient drug manufacturing in India, “it touched only the fringe of the problem, as it made only one antibiotic i.e. penicillin, and the whole problem of making other antibiotics and other essential drugs remained to be tackled.”<sup>89</sup> To obtain the technology to produce these drugs and more, Sokhey needed funding.

### **Battle for Hindustan (Antibiotics)**

Soviet technical and financial assistance was the answer to Sokhey and Nehru’s desire for self-sufficiency in the drug industry.<sup>90</sup> In 1953, Sokhey visited the Soviet Union and found that it “offered the best facilities for putting up an integrated drug industry in the country.”<sup>91</sup> Excited, he informed the Government of India and returned to the USSR in 1955 with two chemist colleagues, Drs. Ganapathy and Shirsat. The Soviet offer crystallized during Sokhey’s visit to the USSR in July 1955, where Sokhey asked for technological support to establish a pharmaceutical complex that would produce a whole range of drugs. Sokhey wanted the factory to be top of the line and produce drugs from plant derivatives, synthetic chemical drugs like anti-malarial and anti-tuberculosis drugs, and antibiotics.<sup>92</sup> Sokhey and team spent three months travelling around the Soviet Union visiting plants and preparing a project report for organizing the necessary basic and intermediate chemicals needed for this enormous task.<sup>93</sup> Compared with European and American firms, Sokhey was surprised to find how different the Soviets’ attitude was towards science. He was particularly

---

<sup>88</sup> Sokhey, *Indian Drug Industry*, 8.

<sup>89</sup> Sokhey, *Indian Drug Industry*, 8.

<sup>90</sup> Nasir Tyabji, “Aligning with both the Soviet Union: Dilemmas Attendant on Initiating Drug Production in India,” Working Paper, Institute for Studies in Industrial Development, 2010 4.

<sup>91</sup> Sokhey, *Indian Drug Industry*, 9.

<sup>92</sup> Tyabji, “Aligning with both the Soviet Union,” 4.

<sup>93</sup> Singh, “Sahib Singh Sokhey,” 244.

impressed by their openness in exchanging technological and medical knowledge, exclaiming, “they treated applied technology on par with pure science. They were observing no secrecy regarding the know-how of drug manufacture, and I could easily enter the Soviet plant and learn all that I wanted.”<sup>94</sup>

The rest of the state also seemed to be following Sokhey’s lead in chasing Soviet support. The visit of the two Soviet leaders—Nikita Krushchev and Nikolai Bulganin—to India in November 1955 was a historically important event in Indo-Soviet collaboration. Signaling a shift in industrial priorities, Nehru now bracketed drugs with heavy engineering industry as a primary concern and discussed their development with the Soviet leadership.<sup>95</sup>

Nehru argued that to avoid the risks of adulteration and prevent high drug prices, the drug industry should be predominantly in the public sector. Based on Sokhey’s positive experience in the USSR, he pushed for Soviet collaboration to build the new public sector projects. In October 1955, the Ministry of Commerce and Industry asked the Soviet ambassador whether the USSR would be prepared to send a team of technical experts to India to evaluate the spaces for technological production and growth.

In 1956, the Soviet Government sent a team of six experts on a three-month tour of India to study and inspect the largest Indian drug factories.<sup>96</sup> They recommended that since more than 40% of India’s drug expenditure was on antibiotics, India should put their main effort into setting up more antibiotics plants. The Soviets recommended that India invest in expanding Hindustan Antibiotics’ penicillin production and additionally produce streptomycin and aureomycin. Their second recommendation was that India invest in synthetic drugs, vitamins, and their intermediates.<sup>97</sup>

---

<sup>94</sup> Singh, “Sahib Singh Sokhey,” 244.

<sup>95</sup> Nasir Tyabji, “Negotiating Nonalignment: Dilemmas Attendant on Initiating Pharmaceutical Production in India,” *Technology and Culture* 53, no. 1 (2012): 37–60, 44.

<sup>96</sup> *Ibid.*

<sup>97</sup> Sokhey, *Indian Drug Industry*, 10.

To fund these projects, the Soviets offered India a loan of 80 million roubles, generously payable back in rupees on 2.5% interest. Merck's loan, in contrast, was to be paid back in dollars.<sup>98</sup>

Over and above financial help, Sokhey was struck by the Soviet's attitude towards knowledge exchange. In return for providing technology and training, the Soviets would charge no royalties, and would be willing to train all the Indian technicians necessary to make the plant function with entirely Indian personnel.

The openness to share technological training and methods of drug manufacture were very different from the other offer on the table. Battling against the Soviets to fund the Hindustan Antibiotics was the American pharmaceutical firm Merck. If India accepted Merck's money, the plant would have to observe absolute secrecy. Merck required that India would not be able to freely share the plant's technological knowledge with any other entity or ask for help from any source besides Merck. Moreover, the price of drugs would remain high because India would have to pay high royalty charges, that too in dollars.<sup>99</sup>

This restriction on the flow of information and technical know-how was the worst part of the deal for Sokhey. In his leaflet, *The Future of the Indian Drug Industry*, Sokhey lamented that "Science and technology flourish best under free exchange of scientific information and contact between workers. It sharpens thought and enriches experience. But this agreement with Merck will keep us tied to them for ten years and will deny us the right of free exchange of knowledge with other institutes, particularly those of the Soviet Union, China, Czechoslovakia, and Poland who are ready to collaborate with us."<sup>100</sup> In collaboration with the Soviets, intellectual property rights would cease to be a concern.

---

<sup>98</sup> Sokhey, *Indian Drug Industry*, 11.

<sup>99</sup> *Ibid*, 15.

<sup>100</sup> *Ibid*.

Sokhey saw the competing Soviet and Merck deals as a battle for India's allegiance in the Cold War. Quoting from an article published in *American Journal: Chemical and Engineering News*, Sokhey identified the American Merck deal as a Cold War attack:

“Drug officials started looking at India about two years ago, just as the Russians began a big push to have India freed from the dependence on Western chemicals and pharmaceuticals. Soviet engineers, loans, and all else needed would be provided if the Indians would take U.S.S.R help and build the state-owned industry...Fortunately for the Free World, Merck and other U.S. and Western drug and chemical firms have not been idle since...Merck's efforts have helped in part to stall this Soviet offensive.”<sup>101</sup>

Sokhey did not shy away from playing the Cold War game. He decided that Soviet collaboration was “the only way to serve the country's best interests.”<sup>102</sup> For the scientists and officials implementing these new plants, Sokhey described that working with U.S. firms felt like working under foreigners, but at Soviet plants, Indian technicians felt like they were working shoulder to shoulder with equals.<sup>103</sup> Sokhey decided that the Hindustan Antibiotics should collaborate with the Soviets.

Despite U.S. firms' patent monopolies, trade secrets, and royalties, the Soviets lost the battle. The Government of India signed a contract with Merck to expand the production capabilities of Hindustan Antibiotics. This decision was deeply rooted in the Indian government's policy of nonalignment, which meant balancing its relationships with the Soviet Union and the Western World, especially with respect to Western multinational corporations.<sup>104</sup>

India's nonalignment stance meant that there were rifts in the bureaucratic ranks with respect to support for the superpowers. Sokhey reported to Nehru that that the chairperson of the

---

<sup>101</sup> Sokhey, *Indian Drug Industry*, 4.

<sup>102</sup> *Ibid*, 23.

<sup>103</sup> *Ibid*, 24.

<sup>104</sup> Tyabji, “Negotiating Nonalignment,” 38.

main industry advisory body, the Development Council for Drugs, was ideologically opposed to the manufacture of pharmaceuticals being based in state control.<sup>105</sup> This set the context for an acrimonious exchange of opinions on the relative merits of Soviet and Western transnational technologies in these heavy industries. The Ministry of Commerce and Industry seemed uneasy to partner with the Soviets, bringing up the limited size of the Second Five Year Plan and the resources allocated for public-sector investment.<sup>106</sup> As it went, no allocations had been made in the existing Five Year Plan for building up penicillin production.<sup>107</sup> The Ministry also worried about upsetting relationships with the twenty-ish transnational pharmaceutical corporations with a presence in India. Freezing them out would completely stall growth within a major market. However, the counterargument was that despite over thirty years in India, these corporations had shown no inclination to commence production of formulations or finished drugs, let alone intermediates.<sup>108</sup>

Nevertheless, the Ministry of Commerce seemed to have made up its mind that there was not enough money in the budget to collaborate with the Soviets. The Soviets had proposed four big changes: a new antibiotic plant which produced drug intermediates on a large scale, extensions in research for new therapeutics, a factory for hormone production and, finally, an expansion of Hindustan Antibiotics. The Ministry argued that all four projects would cost about Rs 350 million, while the Soviet aid amounted to only Rs 120 million, with Rs. 230 million still to be accounted for by the Government of India. In 1957, the Ministry deemed the Hindustan Antibiotics expansion not appropriate for Soviet aid, justifying the decision by quoting Nehru that Soviet aid should be used as far as possible for independent large projects.<sup>109</sup> For now, India sided with America.

---

<sup>105</sup> Tyabji, "Negotiating Nonalignment," 44.

<sup>106</sup> Ibid.

<sup>107</sup> Ibid.

<sup>108</sup> Ibid, 45.

<sup>109</sup> Ibid, 51.

### Eyes on America

As Sokhey lamented that the Merck deal meant Indians would be paying up to twenty-six times more for antibiotics, across the Atlantic, United States Senator Carey Estes Kefauver was grappling with similar issues. Between 1959 and 1962, Senator Kefauver led a congressional committee to investigate the pricing practices of U.S. drug firms. At the center of Kefauver's concerns, like Sokhey's, were the allegedly high price of prescription drugs. Kefauver attributed the phenomenon directly to the lack of competition in the pharmaceutical industry.<sup>110</sup> He feared that rather than drug prices being determined by the market, they were being determined by monopoly. During this investigation, Kefauver compared U.S. drug prices with a number of other countries, and India stood out in his report for being a poor country with disproportionately high-priced drugs.



*Kefauver on a trip to India, 1954<sup>111</sup>*

---

<sup>110</sup> Dominique Tobbell, *Pills, Power, and Policy: The Struggle for Drug Reform in Cold War America and Its Consequences*, vol. 23 (Univ of California Press, 2011), 89.

<sup>111</sup> Man pours tea for Estes Kefauver in Calcutta, Estes Kefauver Image Collection, University of Tennessee, Knoxville, Tennessee, <https://digital.lib.utk.edu/collections/islandora/object/kefauver%3A150412052>.

Senator Kefauver's interests did not instinctively lie in pharmaceuticals, drug control, or the problems of medicine and society. His political career had rested on broader problems of crime and antitrust from his days in the House of Representatives, where he had been especially concerned with the issues faced by small businesses.<sup>112</sup> Antitrust eventually led him to the problem of monopoly in the pharmaceutical space. In December 1959, Kefauver declared in his opening remarks at the hearings held by the Senate Subcommittee on Antitrust and Monopoly that the aim of the hearings were to determine whether the antitrust laws as applied to the drug industry were adequate, and if not, to provide remedial legislation.<sup>113</sup>

Kefauver's research into the pharmaceutical industry in the United States was the first attempt to regulate the price of prescription drugs.<sup>114</sup> Earlier legislation on drugs had focused on regulating the truth of medical advertising and the safety of pharmaceutical products. But, as in India, the U.S. pharmaceutical lobby was not willing to go down without a fight. The pharmaceutical industry's primary defense in the United States was to argue that government encroachment on private enterprise signaled a ready sprint towards socialized medicine.<sup>115</sup> This was a situation that, according to the pharmaceutical industry, every American should deeply fear. According to historian Dominique Tobbell, the pharmaceutical industry sought to derail Kefauver's efforts using a three-pronged approach. First, the industry attempted to characterize the drug industry as central to America's battle against communism. Second, it hoped to create an alliance with the already strong medical lobby by connecting the system of free enterprise with the war against socialized medicine. Lastly, the industry launched a public relations campaign to connect with the American public, portraying the pharmaceutical industry as a tool to fight Soviet influence abroad. By presenting the

---

<sup>112</sup> Richard Edward McFadyen, *Estes Kefauver and the Drug Industry* (Emory University, 1973), 7.

<sup>113</sup> Tobbell, *Pills, Power, Policy*, 89.

<sup>114</sup> *Ibid.*

<sup>115</sup> *Ibid.*

system of drug development as a marker of free enterprise, the pharmaceutical industry sought to win the support of the public and foil Kefauver's efforts to increase government control over the drug industry.<sup>116</sup>

Throughout the hearings, the drug industry and its supporters drew on the rhetoric of the Cold War to promote its cause, portraying themselves as a blockade against the spread of Communism in the East. Unlike other technoscience where U.S. policymakers feared that the Soviet Union would speed ahead— they were scarred by the surprise launch of Sputnik in October 1957— there was no pharmaceutical drug race of innovation. Americans were comforted by the fact that the Soviets had not produced novel drugs since the October Revolution.<sup>117</sup> What the Americans were terrified of, however, was that the Soviets would use their manpower, technological know-how, and technologies to get the support of the nonaligned world.

By 1954, the United States identified India as one of the most important nonaligned nations to try and woo. In America's eyes, you had to get India on your side before you could obtain "supremacy in Asia."<sup>118</sup> Economic aid became the weapon of choice for this task. However, India's nonaligned status stirred up conflict in Congress as to whether India was worth sending money too since Nehru already seemed to lean towards socialism. In the Congress Quarterly in 1954, a paper entitled "Neutral India" detailed the controversy over American Aid and reasons for recommending continued economic assistance for India. The article explained that due to the "so-called neutralist policies of Prime Minister Nehru," Congress was "considering whether to continue economic aid to India notwithstanding Nehru's opposition to many American foreign policy objectives."<sup>119</sup> Under the newly coined view in Cold War America that "those who not with us are against us," a few

---

<sup>116</sup> Tobbell, *Pills, Power, Policy*, 91.

<sup>117</sup> *Ibid*, 95

<sup>118</sup> Congressional Quarterly, Stone, W. T. (1954). Neutral India. *Editorial research reports 1954* (Vol. I). <http://library.cqpress.com/cqresearcher/cqresrre1954061000>.

<sup>119</sup> *Ibid*.

congressmen questioned administration plans to include a grant of \$104 million to India for economic and technical assistance under the 1955 foreign aid program.<sup>120</sup> Most maintained a more nuanced view, perceiving India to be resisting Communism internally but supporting it internationally.

India performed neutrality convincingly, since by the late 1950s, the U.S. government began to look at pharmaceutical firms and their technologies and know-how as an analog to government aid. Beginning as early as 1957, legislators argued in Congress that drugs—and by extension the drug industry—were going to be critical weapons in the ongoing war against communism.<sup>121</sup> On June 3, 1957, Senator Hubert Humphrey told a gathering of pharmaceutical advertising executives the potential of using pharmaceuticals to “free people in underdeveloped countries from both disease and the communist threat.”<sup>122</sup> American policymakers also looked to graduate funding to capture nonaligned support. In 1952, Merck & Co. set up an international postdoctoral fellowship program. In 1956, the director of scientific personnel at the National Research Council, M. H. Trytten, approached Merck & Co. about the possibility of the corporation funding programs in third world countries such as India.<sup>123</sup> Trytten’s suggestion resulted from concern that the Soviet Union was pursuing technological development and investment in these uncommitted, nonaligned countries.<sup>124</sup>

### **Indissoluble Soviet-Indian Friendship?**

The American’s concerns were absolutely correct. Although Sokhey lost the battle for the expansion of Hindustan Antibiotics, the years between 1957 and 1962 were marked by new Soviet plants manufacturing a variety of drugs and pharmaceutical intermediates. The largest of these was a

---

<sup>120</sup> Congressional Quarterly, Stone, W. T. (1954). Neutral India. *Editorial research reports 1954* (Vol. I). <http://library.cqpress.com/cqresearcher/cqresrre1954061000>.

<sup>121</sup> Tobbell, *Pills, Power, Policy*, 95.

<sup>122</sup> *Ibid.*

<sup>123</sup> *Ibid.*, 99.

<sup>124</sup> *Ibid.*

antibiotics plant on the banks of the Ganges in Rishikesh. On 30<sup>th</sup> May, 1959, the Times of India reported on the dawn of a new age in India's domestic pharmaceutical production with the signing of a new, monumental Indo-Soviet agreement.<sup>125</sup> Under this contract, Russia agreed to extend 80 million roubles to India for the construction of five new pharmaceutical plants. The article quoted Manubhai Shah, India's Minister for Industry, asserting that although India would contribute substantially to building drugs, medicines, and surgical instrument plants, the technical know-how and facilities for training specialists which Russia offered were invaluable. Taking a dig at American offers, Shah added, "these are of far greater importance to India than economic aid."<sup>126</sup>

As Sokhey had warned, Indian officials began to realize that while U.S. aid or collaboration with American firms was extremely restrictive and collaboration with the Soviets allowed India to run the plants independently after they departed. By 1960, plans were in motion to set up four new drug plants. India signed contracts with Messrs. Technoexport Moscow to begin building an antibiotics project in Rishikesh, a synthetic drug plant in Sanatnagar, a surgical instruments plant near Madras city (now Chennai), and a phytochemical plant in Neriamangalam.<sup>127</sup>

Of these, the Rishikesh antibiotic factory was the most significant endeavor. By 1963, it was well on its way to becoming India's largest pharmaceutical enterprise.<sup>128</sup> The Russians gave 95 million rupees for the project, and in 1962, it began to be built on 900 acres of land provided by the Government of Uttar Pradesh.<sup>129</sup> A weekly report from the Indian Parliament proudly asserted India's ability to run a plant of such scale independently, employing "5000 technicians, chemists,

---

<sup>125</sup> Manufacture of Medicines: Indo-Soviet Pact Signed, Extracted from the Times of India, 30 May 1959, Mss Eur F158/265, Pharmaceuticals-India, British Library, London.

<sup>126</sup> Manufacture of Medicines: Indo-Soviet Pact Signed, Extracted from the Times of India, 30 May 1959, Mss Eur F158/265, Pharmaceuticals-India, British Library, London.

<sup>127</sup> Parliament of India Weekly Digest: Drug Plants, 14 Oct 1963, Mss Eur F158/265, Pharmaceuticals-India, British Library, London.

<sup>128</sup> Indigram: New Antibiotics Factory, 1-6 August 1960, Mss Eur F158/265, Pharmaceuticals-India, British Library, London.

<sup>129</sup> Parliament of India Weekly Digest, 12-17 March 1962, Mss Eur F158/265, Pharmaceuticals-India, British Library, London.

chemical engineers and research scientists. All the laborers will be Indians but a few Russian scientists will work on the project on a short term basis.”<sup>130</sup> By 1963, the plant opened and deliveries of plant machinery began arriving at the banks of the Ganges.<sup>131</sup> Leningrad machine builders had started sending parts of plant for the factory, aiming to equip it to produce 300 tons of penicillin, streptomycin, and tetracycline per year.<sup>132</sup>

The success and scale of the Rishikesh plant became linked to the perceived strength of India-Soviet relations. In a 1970 memo on “Technical Assistance of the USSR to Socialist and Developing Countries in the Establishment of Businesses in the Medical Industry,” V.A. Dvoryakovskii, the Deputy of the Minister of the Medicinal Industry in the USSR, looked back on two decades of the Soviet Union’s technoscience diplomacy. He recounted how “under the difficult conditions of a tropical climate, the Soviet technicians helped their Indian colleagues to master the complex technology of producing surgical instruments and also shared their experience in the design of new types of instruments and tools for their manufacture,” resulting in the construction of several medicinal industry plants.<sup>133</sup> By 1967, the Rishikesh plant was up and running. Dvoryakovskii recounted that the plant had encountered difficulties like dust storms, rain, high humidity and temperature. Although more slowly than expected, the factory had learned to master the production of penicillin, streptomycin, tetracycline and hydroxy-tetracycline.<sup>134</sup> The plant, Dvoryakovskii proudly concluded, was a symbol of “indissoluble Soviet-Indian friendship.”<sup>135</sup>

---

<sup>130</sup> Parliament of India Weekly Digest, 12-17 March 1962, Mss Eur F158/265, Pharmaceuticals-India, British Library, London.

<sup>131</sup> Indigram: New Antibiotics Factory, 14 Oct 1963, Mss Eur F158/265, Pharmaceuticals-India, British Library, London.

<sup>132</sup> Ibid.

<sup>133</sup> Dvoryakovskii, “Technical Assistance of the USSR to Socialist and Developing Countries in the Establishment of Businesses in the Medical Industry,” 1.

<sup>134</sup> Ibid, 2.

<sup>135</sup> Ibid.

However, although the USSR funded several pharmaceutical plants in India in the 60s, it was far from a decisive Soviet win. India continued to partner with private pharmaceutical firms in the West, including Merck from America and Sandoz from Switzerland.<sup>136</sup> Inaugurating a Sandoz plant near Bombay in 1961, Vice President of India S. Radhakrishnan specifically dismissed any notion of exclusive loyalty to the Soviets. “I hate to see the world divided into compartments called East and West,” Radhakrishnan mused.<sup>137</sup> India needed rapid technological advancement to no longer be “the lotus of the East in comparison to the robots of the West,” Radhakrishnan announced.<sup>138</sup> He welcomed any and all international collaboration in this goal.<sup>139</sup> The victory, for now, was the Indian state’s ambition to get foreign funding to establish state of the art factories to produce lifesaving medicines for the population. They would soon find out that was not enough to care for the health of the nation.

### **Chapter III: Patent Politics and Defining the Nation**

As the plants planned in the late 1950s and early 1960s came into action, India’s outlook that maximizing production and building new plants was the way to achieve self-sufficiency in pharmaceuticals was supplemented by another approach: intellectual property and patents. Senator Estes Kefauver’s report on monopolies in the U.S. steel, automobiles, bread, and pharmaceutical industries unintentionally catalyzed this shift in the Indian political consciousness. Since independence, Nehru and Sokhey had been concerned with ensuring that India was able to wield the latest technology to care for the health of its population. Although Sokhey and a few other officials in the Planning Commission wanted to abrogate the Patents and Design Act of 1911 and do away

---

<sup>136</sup> Indigram: Vice President Inaugurates Swiss Drugs Company Near Bombay, February 1961, Mss Eur F158/265, Pharmaceuticals-India, British Library, London.

<sup>137</sup> Ibid.

<sup>138</sup> Indigram: Vice President Inaugurates Swiss Drugs Company Near Bombay, February 1961, Mss Eur F158/265, Pharmaceuticals-India, British Library, London.

<sup>139</sup> Ibid.

with product patents all together, patent politics had not gained enough of a following in the public arena for change to be enacted.

Unexpectedly, Senator Kefauver's report had an indelible impact on Indian policymakers and the public. Suddenly, raw materials, technological know-how, and productive capabilities were not seen as the only ways to achieve low drug prices. The price of drugs and the health of the Indian population remained the problem, but Indian politicians now saw these issues as caused by monopolies and barriers in knowledge exchange and innovation. This shift from technoscience mania to patent reform was caused two main forces. The first was Kefauver's report on pharmaceutical patent monopoly and Sokhey's use of it in the press and parliament. The second was politicians realizing that India's new flashy pharmaceutical plants could not produce most drugs, or at least not without paying huge royalties, under existing patent laws.

### **Ayyangar Committee**

After a brief silence in the fight for patent reform following the lapse of the Patents Bill, 1953, the Indian government constituted a second committee under Justice Ayyangar "to review the Patent Laws in India with a view to ensure that the patent system was more conducive to national interests" in 1957.<sup>140</sup> The report recommended that India should deviate from patent policies of industrialized countries and proposed radical changes to the then-existing Indian patent laws.<sup>141</sup> The committee grounded these conclusions in two arguments: the health of citizens and the monopolistic character of the pharmaceutical industry. Evoking Nehru, the Ayyangar Committee asserted that since food and medicine were part of the daily life of Indians, and vital to the health and well-being of the population, they should be accessible to the public at a reasonable price.<sup>142</sup> The

---

<sup>140</sup> Reddy, *Create, Copy, Disrupt*, 12.

<sup>141</sup> Jae Sundaram, *Pharmaceutical Patent Protection and World Trade Law: The Unresolved Problem of Access to Medicines* (Routledge, 2018), 138.

<sup>142</sup> *Ibid.*

committee observed that the high cost of drugs in India was directly linked to the monopoly of foreign pharmaceutical companies in drug production. In response to these two problems, the Ayyangar Committee recommended that product patents should not be granted in the areas of food and medicine, and instead, process patents should be used.<sup>143</sup>

The technical differences between product and process patents were key tools for those fighting for patent reform. A product patent encoded rights on the end created—an example would be the antibiotic aureomycin. A process patent, however, granted rights only over a specific method of creating that end—for example, the process patent granted for creating aureomycin from inoculating a medium with the bacteria *Streptomyces Aureofaciens*.<sup>144</sup> If a product patent was granted, the patentee gained exclusive rights to the product regardless of the process used to achieve the product. A process patent, on the other hand, granted the patentee an extremely limited right, restricted to the scope of the process claimed in the patent. Thus, a product patent was an umbrella which encompassed all process patents for that product.

In the late 1950s, since India was only still beginning to build up industry after independence and almost 90% of the patents filed in the country were foreign.<sup>145</sup> Ayyangar concluded that allowing product patents would send royalties outside of India to foreign countries, as well as disrupt domestic production and keep the price of medicines at an unaffordable level. Allowing companies to patent the process of production, however, would encourage research in developing alternative processes, increasing diversity of products at competitive prices.<sup>146</sup>

---

<sup>143</sup> Jae Sundaram, *Pharmaceutical Patent Protection and World Trade Law: The Unresolved Problem of Access to Medicines* (Routledge, 2018), 138.

<sup>144</sup> Joseph D Niedercorn, 1952, Process for Producing Aureomycin, US patent US2609329A, filed December 15<sup>th</sup>, 1948, and issued Sept. 2, 1952.

<sup>145</sup> Reddy, *Create, Copy, Disrupt*, 12.

<sup>146</sup> Sundaram, *Pharmaceutical Patent Protection*, 138.

Despite Ayyangar's comprehensive argument about why India should amend the Patents and Design Act of 1911, Parliament did not take any action on his recommendations till 1964. Finally, in the mid 1960s, the Indian State made up its mind that the patent system needed to change. The first attempt to change the Patents and Design Act of 1911 was the Patents Bill, 1965, which lapsed once that term of the Lok Sabha finished. The second bill proposed was the Patents Bill, 1967, which was eventually tweaked and enacted as the Patents Bill, 1970. As the tides changed in the mid 1960s, U.S. Senator Kefauver played an unexpected role as a turning point in patent discourse.

### **Kefauver's Unintentional Intervention**

In 1961, Senator Kefauver presented a report in the U.S. senate about the problem of monopolies which reverberated strongly with Sokhey, Justice Rajagopala Ayyangar. and many others fighting for patent reform and access to medicine in India.<sup>147</sup> Kefauver's report investigated monopolies in the U.S. steel, automobiles, bread, and pharmaceuticals industry. It found that the pharmaceutical industry had the highest profit margins when compared to the 50 leading industries in the United States, and that drugs in the U.S. were considerably more expensive than the same drug in other global markets, including India:<sup>148</sup>

“India which does grant patents on drug products, provides an interesting case example. The prices in India for the broad-spectrum antibiotics, Aureomycin, are among the highest in the world. As a matter of fact, in drugs generally, India ranks among the highest priced nations of the world—a case of inverse relationship between per capita income and the level of drug prices.”

---

<sup>147</sup> Reddy, *Create, Copy, Disrupt*, 12.

<sup>148</sup> United States Senate (Subcommittee on Antitrust and Monopoly), Study of Administered Prices in the Drug Industry, 87th Congress Report No. 448 (8 May 1961), 40.

This small extract caused an uproar in the political and popular arenas in India. The Kefauver report figured in Indian parliamentary debates in 1965, 1967, and 1970, and was widely reported on in the press as well.<sup>149</sup>

Although the report had less than a dozen lines about India, Sokhey was able to use these lines to amplify the patent issue and make it a talking point in periodicals and Parliament. Sokhey noticed that Kefauver's report, like Ayyangar, concluded that monopolies in the pharmaceutical industry were the reason for the prohibitive prices of drugs. A little less than a year after Senator Kefauver published his report, Sokhey published an article in *The Economic Weekly* in February 1962 entitled "Manufacture of Modern Drugs Forging Ahead But Menaced by Patent Laws." By 1962, India had successfully set up numerous plants to manufacture antibiotics, synthetic intermediates, and vitamins with the help of the World Health Organization, the Soviet Union, the United States, and countries from both Eastern and Western Europe. However, what Sokhey noticed was that India could amass as much technology or build as many drug manufacturing plants as it wanted, but the knowledge of how to produce drugs and right to be able to produce the lifesaving drugs were all limited by India's tight patent restrictions.<sup>150</sup>

Sokhey celebrated the new influx of technology from the Soviet Union, but mourned the fact that despite, new manufacturing capabilities, drug prices in India remained high because of patents. "It was welcome news indeed," Sokhey wrote, "which Shri N Sen, Chairman of the Indian Drugs and Pharmaceuticals Ltd, gave to a press conference at Madras the other day, that work on the four drug projects to be set up in the public sector with Soviet collaboration would commence immediately, and the projected plants would come into operation in 1965."<sup>151</sup> Referencing the

---

<sup>149</sup> Reddy, *Create, Copy, Disrupt*, 12.

<sup>150</sup> Sahib Singh Sokhey, "Manufacture of Modern Drugs Forging Ahead: But Menaced by Patent Laws," *Economic Weekly* 13 Annual Number (February 1962): 235-41, 235.

<sup>151</sup> *Ibid.*

Rishikesh antibiotic plant, Sokhey elaborated that it would be producing the usual range of broad-spectrum of antibiotics while also having the “facilities to discover new antibiotics and to put them into production.”<sup>152</sup> However, Sokhey warned that these measures would not ensure that the Indian population had access to life-saving medicines:

Now that the public sector and the private industry are planning to make in the country all essential drugs like antibiotics, vitamins, synthetic drugs, synthetic drugs, alkaloids etc, and make the country self-sufficient and independent of imports from foreign countries, it would be possible to provide them at reasonable prices somewhere near the cost of production.

But the development of all industries and the prices of their products, particularly those of the drug industry, are affected by the patent laws in force of the country. Under the existing law even when we put up our own plants, we shall have to pay royalties to foreign firms who have taken out patents on the processes of making drugs.<sup>153</sup>

Sokhey worried that even though India did not need technical know-how from the Western firms—it was being provided free of charge by the Soviets—India would have to pay large fees in royalties to those who had a monopoly over the majority of life-saving drugs.

Although Sokhey acknowledged that the Ayyangar report had reached the same conclusion about monopolies and high prices in the pharmaceutical industry in India, he differentiated Kefauver’s report as a universal condemnation of patents and of the general evil of the pharmaceutical industry. These evils required legislation to restrain their spread. Trying to wake Indian legislators from their inaction on the patent issue, Sokhey presented the Kefauver report as presenting radical new revelations about the Indian pharmaceutical landscape, and providing a new moment to act on: “But now that the findings of this very exhaustive American enquiry are available

---

<sup>152</sup> Sokhey, “Manufacture of Modern Drugs,” 235..

<sup>153</sup> Ibid.

they should be given due weight in the drawing up of the clauses relating to patents in drugs in our new Patent Bill.”<sup>154</sup> After nearly 20 years, Sokhey hoped that a U.S. perspective on the situation in India would snap legislators into action.

The Report of the Subcommittee on Antitrust and Monopoly, or Senator Kefauver’s Report, had written only a few lines on India. Generally, the report noted that India presented an interesting case study because although it had a low per capita income, the level of drug prices was one of the highest in the world.<sup>155</sup> Besides that, the report mentioned numerous small facts about India, like how compared to the United States, the antibiotic sold for a higher price of \$5.12 in Iran, and \$6.92 in India because it was the only seller.<sup>156</sup> The conclusion of the report was that the prices of drugs were generally lower in countries without patents on medicine because of competition in the industry. Of seventeen countries the report investigated, six granted patents for drug products and eleven did not. In the case of 12 drugs examined by the committee, prices were higher by 118 to 355 per cent in countries with product patents.<sup>157</sup> In light of this data, the report asserted that the best path forward was a world without patents: “The conclusion would appear to be warranted that in this industry, the mere existence of patent protection is not a guarantee of invention, nor is its absence much a barrier.”<sup>158</sup> The committee concluded that patents did not encourage innovation in drugs.

Sokhey wanted to use the Kefauver Committee’s report to stir up support for patent reform in India, and he realized to accomplish this he must broadcast his message to the general public. In 1965, Sokhey published a piece in the *Economic and Political Weekly* calling for the abolition of

---

<sup>154</sup> Sokhey, “Manufacture of Modern Drugs,” 236.

<sup>155</sup> United States Senate (Subcommittee on Antitrust and Monopoly), *Study of Administered Prices in the Drug Industry*, 87th Congress Report No. 448 (8 May 1961), 321.

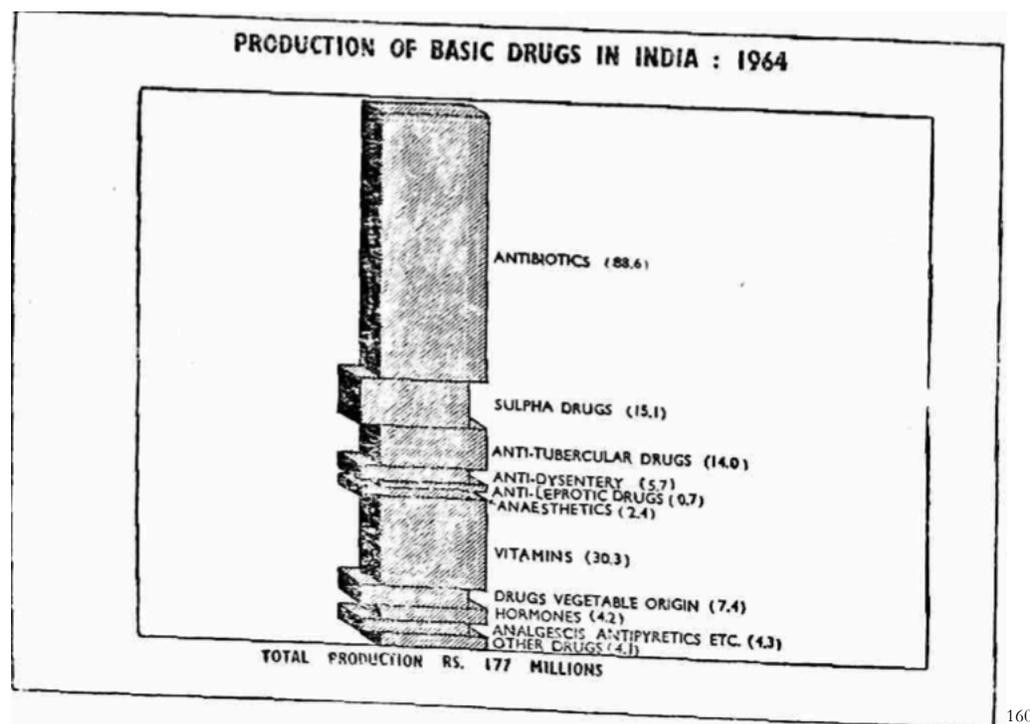
<sup>156</sup> *Ibid.*, 40.

<sup>157</sup> Sokhey, “Manufacture of Modern Drugs”, 237

<sup>158</sup> United States Senate (Subcommittee on Antitrust and Monopoly), *Study of Administered Prices in the Drug Industry*, 87th Congress Report No. 448 (8 May 1961), 120.

patents all together based on the findings of the Kefauver report. His article sparked an intense debate in the journal and the *Times of India*, where many readers wrote in specially to respond to Sokhey.

In his piece in the *Economic and Political Weekly*, Sokhey invoked the authority of Kefauver as a U.S. senator with extensive resources and data to push his own anti-patent agenda in India. He showered praises on the report, calling it “a veritable gold mine of precisely determined facts which throws a flood of light on the practices of the drug industry and the role the patents play. It is of incalculable value to all interested in the drug industry and provides pertinent facts to answer spokesmen of the foreign drug monopolies in India.”<sup>159</sup> Using the data collected by the Kefauver report and an Enquiry in the House of Commons in the United Kingdom, Sokhey boldly concluded in the *Economic and Political Weekly* that patents for medicines needed to be abolished all together.



<sup>159</sup> Sokhey, “Manufacture of Modern Drugs,” 597.

<sup>160</sup> “Problems of Patent Policy” in Supplement to the “Monthly Commentary on India Economic Conditions,” Published by the Indian Institute of Public Opinion, Vol. VIII No 2, September 1966, Mss Eur F158/256, Patents-India, British Library, London.

Sokhey published many more similar articles in a range of periodicals, and his persistent call to reform patent legislation successfully started a conversation. In 1965, there was a series of letters to the editor of *Times of India* by people who were moved by the discourse around the Kefauver Report. There were both positive and negative outlooks on the report's conclusions, as well as skepticism about its data. Both anger and praise were directed at Sokhey, who was the loudest supporter of Kefauver's conclusions.

Many disagreed with Sokhey's praise of Kefauver on the basis that his data was wrong. In an article to the editor in the *Times of India*, Arvind Nair, an information officer at Pharmaceutical and Allied Manufacturers and Distributors LTD, tried to debunk Kefauver's conclusion that drug prices in India were some of the highest in the world. Referring to Sokhey, Nair wrote: "The Kefauver committee, according to him, was 'official.' So was the McCarthy committee. General Sokhey finds the Kefauver report 'a gold mine of information.' Actually it is a gold mine of distorted information, hand-picked and slanted to suit a preconceived purpose."<sup>161</sup> Nair also disagreed with the committee's allegations that drug companies were selling their products at 17 to 20 times the cost: "These are the ratios of the raw material cost to the selling price. All other elements that enter into the cost such as research spending, labour, overheads and distribution expenses were ignored while arriving at these grotesque percentages."<sup>162</sup> Nair also contested the committee's findings about Italy as the haven of cheap drugs. Nair claimed that the prices of antibiotics and antidiabetic drugs in Italy were significantly higher than in countries with patents. Ultimately, Nair thought that General Sokhey's figures on research expenditure were wrong.<sup>163</sup>

---

<sup>161</sup> Nair, Arvind, "Drug Patents: To The Editor," *Times of India*, February 6, 1965.

<sup>162</sup> *Ibid.*

<sup>163</sup> *Ibid.*

Many more cited that prices were high in India, but not exceptionally or unjustifiably high. K.S. Neelakanadan, a Pfizer public relations officer, wrote-in to the *Times of India* in 1965 to question Sokhey. Like Nair, Neelakandan disagreed with Sokhey's numbers. He went as far as to say that he believed the prices of drugs actually went down: "It seems, many are under misapprehension that drug prices are too high and that the pharmaceutical industry is making enormous profits. During the last ten years pharmaceutical products have been the only items in which there was no price increase (barring, of course, the recent raise as a result of the Government's decision to levy excise duty). In fact the prices have been substantially reduced, e.g. penicillins, tetracyclines, and corticosteroids."<sup>164</sup> Even though he claimed that the prices were going down, Neelakandan still defended whatever price drugs were being sold at, attributing them to R&D costs. Writing that because it took 2-10 years to market and test safety of drugs and conduct clinical trials, it was only fair for the consumer to expect a high price.<sup>165</sup> Instead of trying to control prices which fluctuated rightly because of research costs, Neelakandan advised the government to focus on health education instead: "It may be disastrous to think of the nationalization of the drug industry because this may wipe out all incentives for developments. In a vast country like ours, it may also not be practical to offer free medical service. An educative campaign of the public on health habits will be more rewarding."<sup>166</sup> The industry perspective questioned the Nehruvian vision of technoscience development, shifting responsibility to public health campaigns.

The overwhelming response, however, to Sokhey wielding the Kefauver weapon, was positive. In the same *Times of India* opinion debate, many people wrote to defend Sokhey and Kefauver. Readers noted that naturally the proposed revision had met with severe criticism from the foreign manufacturers of pharmaceuticals and food products and those that worked in these firms.

---

<sup>164</sup> Neelakanadan, K.S., "Ayurvedic and Unani Systems," *Times of India*, August 31, 1961.

<sup>165</sup> *Ibid.*

<sup>166</sup> *Ibid.*

Reader K.M. Channa wrote to the *Times of India* stating that of course prices were high and unattainable to those who actually needed them. Holding a particular disdain for multinationals “who see in it an end to their monopolistic exploitation of a seller’s market,” he agreed with Sokhey’s call to ban patents on medicines.<sup>167</sup>

### **Changing Tides**

Although the 1965 was scrapped as Parliament’s term lapsed, it was once again brought back as the 1967 Bill which eventually became the Patents Act, 1970. Although there were slight differences between the 1965 and 1967 legislation, both proposed a deliberately weakened patent law in terms of product and process patents. Besides restrictions on product patents for pharmaceuticals, chemicals, and certain other technologies, both laws also sought to reduce the term of protection for all patents from the existing 16 years to 14 years. The terms of process patents for food, medicine, chemicals, and other technologies, would be further restricted to 10 years. Process patents for these technologies would also be subject to a system of license of right, where any person could use the patented process three years after the patent was granted by paying the patentee a royalty of up to four per cent of the sales price. The significance of a license of right as opposed to compulsory license was that there was no longer a burden on the team requesting the license to justify why should be allowed. Unlike compulsory licenses, where the person demanding such a license had to convince the Controller of Patents that the patentee was abusing its monopoly, a license of right did not need a prior adjudication by the Controller of Patents. It was an automatic process granted as a matter of right.<sup>168</sup>

What brought together support from different factions of the population for the proposed patent changes was a national feeling and support for the indigenous pharmaceutical industry in the

---

<sup>167</sup> Channa, K.M, “Drug Patents: To The Editor,” *Times of India*, December 14, 1964.

<sup>168</sup> Reddy, *Create, Copy, Disrupt*, 15.

face of ‘foreign’ competition. The measures further diluting the process patents and licensing regimes were most likely introduced by the government to deal with complaints by Indian industry that foreign patentees were creating thickets around products by patenting all known processes.<sup>169</sup> Just as Channa criticized multinational corporations for only holding a profit motive and not actually doing any tangible good in India, slowly politicians in Parliament began to bring up the monopoly of foreigners in general when it came to holding patents.

### **Rising National Feeling**

At the time, Indian politics had three main political parties representing the entire spectrum of views. On the ideological left was an assortment of communist parties, headed by the Communist Party of India (CPI), which demanded complete abolition of all patents. On the ideological right was the conservative Swatantra Party, then the only party supporting free market capitalism and stronger property rights including intellectual property rights for all technologies. Minoos Masani, a founding member of the Swatantra Party, had played a pivotal role in opposing the dilution of Indian copyright law in the previous decade. After independence, the ruling Indian National Congress party had put India on the path of a mixed economy—a primarily socialist economy with limited opportunity for private capitalist industries that were subject to a litany of state controls. The Congress was still divided on the subject of pharmaceutical patents, where some MPs demanded complete abolition of all patents, while a few thought those measures were too extreme.

Although economists and scientists had tried to raise awareness about this issue, MPs finally began to question in Parliament whether the Indian patent system was serving Indians in the late 1960s. In August 1967, Shri Shiva Chandra Jha, a politician from the Samyukta Socialist Party asked the Minister of Industrial Development and Company Affairs whether the present system of patents

---

<sup>169</sup> Reddy, *Create, Copy, Disrupt*, 15.

was inherently more beneficial to foreigners, and if so, the modifications the government would implement so “indigenous patentees would be more benefitted?”<sup>170</sup> The Minister of Industrial Development was only able to give an ambiguous response. Fakhruddin Ali Ahmed was part of a new Congress which was divided on the future of patents and private versus state control of industry. “The law relating to patents in India affords equal opportunity to Indians and foreigners alike to the benefits of the patent system,” Fakhruddin Ali Ahmed wrote.<sup>171</sup> In 1967, 80.3% of patents registered in India were filed by Non-Indians, consistent with the percentage breakdown over the last decade.<sup>172</sup> Admitting that there was a significant difference in patents held by foreigners versus Indians, he blamed global inequities outside the law’s purview. Without explaining why, Ahmed attributed the significant difference between Indian and Non-Indian patent filers to the “greater industrial activities and research abroad” and the fact that in contrast there were “limited industrial and research activities in this country that the system has not full been utilized by Indians.”<sup>173</sup> Ahmed did not think that the patent system was broken, but merely that it was not being sufficiently used by Indians because of a lack of research technology and funding compared to the West.

This balanced position on patents was echoed by a few other members of the Congress in dissenting notes filed in response to the new Patent Bills.<sup>174</sup> Three MPs warned that abolishing certain kinds of pharmaceutical patents would gravely affect technology transfer to India which might do more harm than good for drug prices in India. Instead, they wanted a patent system which created “a proper investment climate in India for the rapid growth of the pharmaceutical and

---

<sup>170</sup> Lok Sabha Starred Question No. 1507, Asked by Shri Shiva Chandra Jha and Answered by Shri Fakhruddin Ali Ahmed, 1 August 1967, Mss Eur F158/256, Patents-India, British Library, London.

<sup>171</sup> Ibid.

<sup>172</sup> “Report of the People’s Commission on Patent Laws for India.” National Working Group on Patent Laws and Public Interest Legal Support & Research Centre, New Delhi, India, 2007, 7.

<sup>173</sup> Lok Sabha Starred Question No. 1507, Asked by Shri Shiva Chandra Jha and Answered by Shri Fakhruddin Ali Ahmed, 1 August 1967, Mss Eur F158/256, Patents-India, British Library, London.

<sup>174</sup> Reddy, *Create, Copy, Disrupt*, 16.

chemical industries both by Indian entrepreneurs and by import of foreign technology and investment where necessary.”<sup>175</sup>

Year	Total No. of Applications	Percentage of Indians	Percentage of Non-Indians
1957	3,456	15.20%	84.80%
1958	3,572	14.80%	85.20%
1959	3,965	17%	83.00%
1960	4,503	14.70%	85.30%
1961	5,289	13.30%	86.70%
1962	5,813	12.60%	86.40%
1963	5,676	13.20%	86.80%
1964	5,705	14.40%	85.60%
1965	6,002	14.60%	85.40%
1966	5,429	16.40%	83.60%
1967	5,190	19.70%	80.30%

**Table 1:** Table Showing Number of Applications for Patents from Persons in India and Abroad<sup>176</sup>

India’s Socialist and Marxist parties enthusiastically got behind the patent issue. They believed that patents as a concept were inherently harmful to people, and that innovation would surely continue without them. In the same Minutes of Dissent, MPs from the Communist Party India and Dravida Munnetra Kazhagaam—Leftist regional party from South India—criticized the proposed patent reforms for being too soft. Seeing as in India research was mainly conducted in publicly-funded institutions, they attacked the fundamental notion that patents created incentives for

<sup>175</sup> Reddy, *Create, Copy, Disrupt*, 17.

<sup>176</sup> Adapted from “Report of the People’s Commission on Patent Laws for India.” National Working Group on Patent Laws and Public Interest Legal Support & Research Centre, New Delhi, India, 2007, 7.

research and called for the abrogation of the patent system all together. Regarding patents for food and medicines, they quoted Kefauver's report as evidence of drug prices in India being the highest in the world to demand the abolition of pharmaceutical patents. Condemning the Indian government for being "influenced more by the views of foreign monopolies and their Indian collaborators than by those of people who are interested in genuine development of our national industry" they termed the Patents Bill a "tragic situation."<sup>177</sup>

### **Indigenous Pharma Strikes Back**

In 1968, the Bombay High Court Ruled on a case which had enraged India's indigenous pharmaceutical companies for over half a decade. In *Farbwerke Hoechst Aktiengesellschaft Vormals Meister Lucius & Bruning Corporation v. Unichem Laboratories and Ors*, the court restrained the indigenous pharmaceutical firm Unichem Laboratories from infringing a process patent owned by German pharmaceutical company Hoechst for the manufacture of Tolbutamide, an anti-diabetic compound. Unichem had claimed that it was actually a process patented by the Haffkine Institute Bombay, for which it had obtained a license. This was an extremely unpopular decision and added fuel to the already large patent reform fire.<sup>178</sup>

The *Hoechst* case made clear how multinational companies misused patents to prevent Indian companies from manufacturing or innovating competition. Despite the patent laws being generous and friendly towards multinationals, they were not very keen on investing in manufacturing operations in the country.<sup>179</sup> The companies thought that India was not a big enough market to set up multiple separate plants in the country. They were also not interested in increasing drug production or enlarging the market and lowering the prices of drugs, as they feared that would

---

<sup>177</sup> Reddy, *Create, Copy, Disrupt*, 16.

<sup>178</sup> Mueller, "The Tiger Awakens," 510.

<sup>179</sup> Sudip Chaudhuri, *The WTO and India's Pharmaceuticals Industry: Patent Protection, TRIPS, and Developing Countries* (Oxford University Press New Delhi, 2005), 128.

adversely impact profits at home.<sup>180</sup> When they did start some little production in the 1950s, multinationals generally imported bulk drugs and assembled them in India as opposed to manufacturing the bulk drugs in India and developing a raw materials production base. Only when India started setting up production facilities with Soviet help in the 60s did Western pharmaceutical firms initiate limited manufacturing plants in India.<sup>181</sup>

Even though multinationals were not focused on manufacturing, they used holes in India's broad patent law to prevent Indian companies from putting out drugs. Under the Patents and Design Act, 1911, multinationals were able to legally list all known and possible processes of producing the product, even if the processes were not novel. The manufacturing activities of the indigenous sector was thus limited to producing drugs that were unpatented or whose patent had expired.

The indigenous sector was technically allowed to produce patented drugs if they discovered a radical new process which was not mentioned in the patent application, but this was practically impossible, as seen in *Farbwerke Hoechst v. Unicham Labs*. In 1956, Hoechst filed a patent to manufacture the diabetes drug tolbutamide using a variety of processes. Meanwhile, Sokhey's Haffkine Institute figured out a process using local raw materials to manufacture tolbutamide. They obtained a patent on their radically new process and granted a license to Unichem Labs, allowing them permission to manufacture.<sup>182</sup> Hoechst filed a suit in Bombay that Unichem had been producing tolbutamide based on one of their patented formulas. Despite the fact that Hoechst did not mention the Haffkine process, the Bombay High Court ruled in their favor because Hoechst filed a patent that was so broad in nature that, according to the judge, "was wide enough to cover all methods of eliminating sulphur from thioureas whether desulphurisation is effected by means of

---

<sup>180</sup> Chaudhuri, *WTO and India's Pharmaceutical Industry*, 128.

<sup>181</sup> *Ibid.*

<sup>182</sup> *Ibid.*, 130.

hydrogen peroxide (method used Haffkine) or by the use of any other substance” (bracketed phrases mine).<sup>183</sup>

The ability of multinationals to block out legitimate indigenous innovation like this featured prominently in the depositions given by industry leaders in the Parliamentary hearings leading up to the passing of the Patents Act, 1970. The founder of CIPLA—one of India’s most successful pharmaceutical companies—K.A. Hamied invoked the Hoechst case:

We evolve a process, but then we do not know whether that process is covered by patent. You know the case of Unichem Laboratory. Dr. Ganapathy thought that it was quite a different process, but they filed a suit saying that it was almost the same as theirs. He lost the case after having spent so much money on that.<sup>184</sup>

All India Manufacturers’ Organization Bombay and the Indian Drug Manufacturers’ Association echoed Hamied’s complaint, making similar depositions before the JPC.<sup>185</sup>

The last defense was broken. The arguments of politicians like Fakhruddin Ali Ahmed that Indian industry was not doing enough were shown to be wrong by the *Hoechst* case. It was in fact that the patent system that was tying the hands of indigenous manufacturing.

The Patent Act 1970 (implemented in 1972) was passed with an explicit purpose: the promotion of a robust indigenous drug industry. Patents for pharmaceutical, food, and agrochemical products were banned and only one production process could be patented for a maximum of seven years. Together with the Foreign Exchange Regulation Act, 1973, new investments were only allowed for companies with a foreign equity holding of 40 per cent or less, and the MNCs were obliged to dilute their ownership of local operations.<sup>186</sup>

---

<sup>183</sup> *Farbwerke Hoechst & Bruning Corp. v. Unichem Lab.*, 1969 A.I.R.56 (Bombay) 255.

<sup>184</sup> India, Lok Sabha, Joint Committee on the Patents Bill, 1967, Minutes of Evidence (14 February 1969), 238.

<sup>185</sup> Reddy, *Create, Copy, Disrupt*, 10.

<sup>186</sup> Chaudhuri, *WTO and India’s Pharmaceutical Industry*, 133.

In 1970, the rhetoric of ensuring the availability of medicines and food products at reasonable prices was not the main motivation of passing the new patents act. Although it was called upon here and there to emphasize the humanitarian effect of the revision, manufacturing and technological development were at the heart of the patent debates. As the attention of Indian politicians drifted away from Nehru's rhetoric of science for the people and the Planning Commission's vision of a state controlled pharmaceutical industry without patents to playing Cold War superpowers for technological aid, patents resurfaced because the new factories were not able to create any of the drugs they were supposed to due to legal restrictions.

India's 1970 patent reform aimed to build technological capacity by unleashing its pharmaceutical sector. While public health rationales were used to justify reform, the goal was freeing Indian companies to grow through manufacturing and innovation. Patent reform spurred India's pharmaceutical sector, enabling it to become a leader in generics and supplier of affordable medicines. The key victory was over the unequal patent system constraining India's progress. After a long battle against foreign control and a colonial-era patent system, India's pharmaceutical sector was poised to realize its potential on the global stage.

## Epilogue

Nandita Venkatesan and Phumeza Tisile celebrated their victory. On March 23, 2023, the Indian patents office delivered its judgment on their plea, rejecting pharmaceutical multinational Johnson & Johnson's application to extend its patent on anti-tuberculosis drug Bedaquiline.<sup>187</sup> Venkatesan and Tisile were both survivors of drug resistant tuberculosis (TB). For almost eight years, Venkatesan battled the disease, taking multiple medicines and painful injections with debilitating side effects.<sup>188</sup> In 2012, Johnson & Johnson came out with Bedaquiline, the first new medicine to treat tuberculosis in over four decades. The drug was safer, more effective, and had the potential to wipe out the agony associated with a drug resistant TB diagnosis. With some of the highest rates of drug-resistant TB in the world, India was a big market for Bedaquiline.

However, Bedaquiline cost around \$400 for a course of treatment in India, and without affordable access, many patients in India had turned to much older and less effective drugs, or no treatment at all.<sup>189</sup> Because they did not want more people to experience the agony of drug resistant TB, Venkatesan and Tisile launched a campaign to stop Johnson & Johnson from extending its monopoly on Bedaquiline. If successful, indigenous Indian pharmaceutical companies would be able to produce generics at 20% of the price, allowing thousands more every year to access the medication.<sup>190</sup>

The spirit of the patents office ruling on Bedaquiline was in line with the goals of the Patents Act, 1970: to encourage the development of domestic industry and curb the price of drugs.

However, by March 2023, the governing law in India was no longer the radical 1970 patents law. In

---

<sup>187</sup> "J&J's Application To Extend Patent On Anti-Tuberculosis Drug Bedaquiline Rejected," *The Wire*, March 23, 2023.

<sup>188</sup> "MSF Applauds Indian Patent Office's Rejection of J&J's Attempt to Extend Monopoly on Lifesaving TB Drug," Médecins Sans Frontières Access Campaign (Médecins Sans Frontières, March 23, 2023), <https://msfaccess.org/msf-applauds-indian-patent-offices-rejection-jjs-attempt-extend-monopoly-lifesaving-tb-drug>.

<sup>189</sup> Kirby, Tony. "Landmark legal ruling sees Indian girl prescribed bedaquiline for XDR-TB." *The Lancet Respiratory Medicine* 5, no. 4 (2017): 249, 249.

<sup>190</sup> "J&J's Application To Extend Patent On Anti-Tuberculosis Drug Bedaquiline Rejected," *The Wire*, March 23, 2023.

1994, India signed on to the Trade-Related Aspects of Intellectual Property Rights (TRIPS), which fundamentally transformed India's pro-public health patent law. India now had to allow product patents on drugs and give pharmaceutical companies exclusive marketing rights for up to 20 years. The general conclusion has been that TRIPS was an assertion of Euro-American hegemony, sucking India back into a neo-colonial economic order.<sup>191</sup>

However, despite the invalidation of the 1970 Patents Act with TRIPS, India has managed to maintain a strong indigenous pharmaceutical sector and is one of the largest providers of drugs in the world.<sup>192</sup> Seeing the 1970 Patents Act not simply as the rejection of a neo-colonial regime but as part of the interests of a new nation seeking scientific and economic prestige on the international stage allows us to understand how India managed to accede to the terms of the global market in the 1990s while continuing to produce affordable generic drugs for itself and the world.

Indian independence and the opportunity to re-evaluate and rebuild the nation spread a sense of historic opportunity in conversations around public health. Prime Minister Nehru envisioned a nation built on scientific innovation and industry. Science was to eradicate disease and poverty, insanitation and illiteracy, and it was to be conducted for the people but at the direction and discretion of the state.<sup>193</sup>

Historians argue that these huge social goals were not achieved because policy and technology became an end in itself, sidelining the value of health. Public sector pharmaceutical development under Nehru reveals a more complicated story. The rhetoric around pharmaceutical development, like India's first antibiotic factory, continued to be justified by its potential to improve

---

<sup>191</sup> Kaushik Sunder Rajan, *Pharmocracy: Value, Politics, and Knowledge in Global Biomedicine* (Duke University Press, 2017), 6.

<sup>192</sup> India supplies over 50% of global demand for various vaccines, 40% of generic demand in the U.S., and 25% of all medicine in UK. Julian Issa, "The World's Pharmacy: India's Generic Drug Industry," (Global Business Reports, February 12, 2020), <https://www.gbreports.com/article/the-worlds-pharmacy-indias-generic-drug-industry>.

<sup>193</sup> Arnold, "Nehruvian Science," 366.

daily life through cheaper medicines. Nevertheless, Nehru also celebrated Hindustan Limited for collaboration with WHO and the opportunity to innovate drugs for the rest of the world.

Technological development was thus not only a means for improving public health infrastructure. Although public health and technological development were not necessarily in competition, the state was attracted to narrowly targeted, techno-centric programs partly because India was able to use foreign technoscience aid as a Cold War negotiating tool.<sup>194</sup> As part of Nehru's inner circle of scientist-policy makers, Sahib Singh Sokhey put his full might behind negotiating with the Soviets to set up plants to manufacture antibiotics, vitamins, and surgical instruments. Sokhey realized that without the "right of free exchange of knowledge" and technological training, the new plants would be useless to India.

He was proven correct. Patents had been introduced into Indian politics in the early 1950s, when Justice Tek Chand's Patent Enquiry Committee and the National Planning Commission recommended patent reform to decrease the power of foreign pharmaceutical monopolies. However, nationalist politicians decided to challenge multinational corporations by seeking international aid and building state-run plants. Although Sokhey favored the Soviets, the state welcomed all collaboration, partnering with private pharmaceutical firms in the West, including Merck from America and Sandoz from Switzerland.

At independence, patent reform was seen as a solution to help domestic industry and public health. However, it was set aside to build big industry. Later, patents returned as an economic and infrastructural issue, rather than the scientific idealism of the 1950s. By the 1970s, patent reform served to maximize the utility of what had already been built in terms of industrial infrastructure. Sokhey worried that under the existing patent law, the new pharmaceutical plants would not be successful. Because of patent thickets and high royalty fees, India was severely limited in what drugs

---

<sup>194</sup> Amrith, "Political Culture of Health," 114.

it could produce and had to pay huge sums in fees to foreign firms who owned 85% of all patents filed in 1960. Senator Kefauver's report provided Sokhey with the opportunity to garner support for patent reform for a variety of reasons. The public rallied behind patent reform in the name of cheaper drugs, writing-in to newspaper to voice support. In contrast, technological development, protecting domestic industry, and maintaining foreign trade relationships were at the heart of the patent debates in parliament.

The 1970 Patents Act was not a moment when India awakened to the oppressive nature of colonial legacies in patent laws, nor was it a principled rejection of western aid and collaborations. Collaborations and aid in the public sector were pervasive since the 1950s after all. By the 1970s, there was a newer historical conjuncture that was now manifest: that of viewing patent reform as a pragmatic means of securing flailing industrial growth in the public sector, rather than seeing it simply as a vehicle of scientific idealism and unrestricted knowledge exchange. Nehruvian visions were not abandoned, but simply recast, as we see by the continued success of generic drug manufacture in India post TRIPS.

---

## Bibliography

### Primary Sources

#### Archival Sources

Patents-India in India Office Records and Private Papers. British Library, London.

Papers Dealing with the Indian Patents and Design Act, 1911 in India Office Records and Private Papers. British Library, London.

Pharmaceuticals-India in India Office Records and Private Papers. British Library, London.

Trade: India-USA in India Office Records and Private Papers. British Library, London.

#### Oral Histories

Hamied, Yusuf. Interview by Karuna Vikram on February 12, 2023, in New York, NY.

#### Newspapers and Journals

*Times of India* (Bombay, India), 1947-1969.

#### Published Primary Sources

##### **Government of India**

Ayyangar, Rajagopala. *Report on the Revisions of the Patents Law*. September, 1959.

[https://ipindia.gov.in/writereaddata/Portal/Images/pdf/1959-\\_Justice\\_N\\_R\\_Ayyangar\\_committee\\_report.pdf](https://ipindia.gov.in/writereaddata/Portal/Images/pdf/1959-_Justice_N_R_Ayyangar_committee_report.pdf).

*Farbwerke Hoechst & Bruning Corp. v. Unichem Lab.* 1969 A.I.R.56 (Bombay) 255.

India, Lok Sabha. Joint Committee on the Patents Bill, 1967. *Minutes of Evidence*. February 14<sup>th</sup> 1969.

“National Health.” National Planning Committee Series. Government of India, December 1948.

Tek Chand, Bakshi. *Report of the Patents Enquiry Committee*. 1950.

<https://indianculture.gov.in/reports-proceedings/report-patents-enquiry-committee-1948-50>

“The Patents Bill, 1953.” Bill No. 59, India 1953.

“The Patents Act, 1970.” Bill No. 59, India 1970.

“Report of the People’s Commission on Patent Laws for India.” National Working Group on Patent Laws and Public Interest Legal Support & Research Centre, New Delhi, India, 2007.

“Report of the Pharmaceutical Enquiry Committee.” Ministry of Commerce and Industry, Government of India, 1954.

### U.S. Government

Congressional Quarterly, Stone, W. T. (1954). Neutral India. *Editorial research reports 1954* (Vol. I). <http://library.cqpress.com/cqresearcher/cqresrre1954061000>.

Niedercorn, Joseph D. 1952. Process for Producing Aureomycin. US patent US2609329A, filed December 15<sup>th</sup>, 1948, and issued Sept. 2, 1952.

U.S. Congress. Senate. Subcommittee on Antitrust and Monopoly. *Study of Administered Prices in the Drug Industry*. 87th Congress., 1<sup>st</sup> sess., 1961 Report No. 448

### Other

Dvoryakovskii, V. A. "Technical assistance of the USSR to socialist and developing countries in the establishment of businesses in the medicinal industry." *Pharmaceutical Chemistry Journal* 4, no. 4 (1970): 195-197.

Singh, Baldev, ed. *Jawaharlal Nehru on Science and Society: A Collection of His Writings and Speeches*. Nehru Memorial Museum and Library, New Delhi, 1988.

Sokhey, Saheb Singh. "Manufacture of Modern Drugs Forging Ahead-but Menaced by Patent Laws." *Economic and Political Weekly*. Economic and Political Weekly, 1962.

Sokhey, Sahib Singh. *The Indian Drug Industry and its Future*. SP Sinha, at New Age Printing Press, 1959, 8.

World Health Organization. "Indian Scientist Named to High WHO Post." WHO Press Release, March 3<sup>rd</sup>, 1950.

---

## Secondary Sources

### Books and Book Chapters

Bhattacharya, Nandini. "Drugs for the Nation." In *Disparate Remedies: Making Medicines in Modern India*. Quebec, Canada: MQUP, 2023.

Chaudhuri, Sudip. *The WTO and India's Pharmaceuticals Industry: Patent Protection, TRIPS, and Developing Countries*. Oxford University Press New Delhi, 2005.

Dumit, Joseph. *Drugs for Life*. Duke University Press, 2012.

Engerman, David C. *The Price of Aid*. Harvard University Press, 2018.

Halliburton, Murphy. *India and the Patent Wars: Pharmaceuticals in the New Intellectual Property Regime*. Cornell University Press, 2017.

Löfgren, Hans. *The Politics of the Pharmaceutical Industry and Access to Medicines: World Pharmacy and India*. Taylor & Francis, 2017.

- Menon, Nikhil. *Planning Democracy: Modern India's Quest for Development*. Cambridge University Press, 2022.
- Osseo-Asare, Abena Dove. *Bitter Roots: The Search for Healing Plants in Africa*. University of Chicago Press, 2014.
- Petryna, Adriana. *When Experiments Travel*. Princeton University Press, 2009.
- Rajan, Kaushik Sunder. *Pharmocracy: Value, Politics, and Knowledge in Global Biomedicine*. Duke University Press, 2017.
- Reddy, Prashant, and Sumathi Chandrashekar. *Create, Copy, Disrupt. India's Intellectual Property Dilemmas*. Oxford University Press India, 2017.
- Richards, Donald G. *Intellectual Property Rights and Global Capitalism: The Political Economy of the TRIPS Agreement*. Routledge, 2020.
- Sundaram, Jae. *Pharmaceutical Patent Protection and World Trade Law: The Unresolved Problem of Access to Medicines*. Routledge, 2018.
- Tobbell, Dominique. *Pills, Power, and Policy: The Struggle for Drug Reform in Cold War America and Its Consequences*. Vol. 23. Univ of California Press, 2011.

#### Articles

- Amrith, Sunil. "Political Culture of Health in India: A Historical Perspective." *Economic and Political Weekly*, 2007, 114–21.
- Arnold, David. "Nehruvian Science and Postcolonial India." *Isis* 104, no. 2 (2013): 360–70.
- Bhattacharya, Nandini. "Between the Bazaar and the Bench: Making of the Drugs Trade in Colonial India, ca. 1900–1930." *Bulletin of the History of Medicine* 90, no. 1 (2016): 61.
- Bhattacharya, Nandini. "From Materia Medica to the Pharmacopoeia: Challenges of Writing the History of Drugs in India." *History Compass* 14, no. 4 (2016): 131–39.
- Biagioli, Mario. "Patent Republic: Representing Inventions, Constructing Rights and Authors." *Social Research: An International Quarterly* 73, no. 4 (2006): 1129–72.
- Habib, S. Irfan. "Legacy of the Freedom Struggle: Nehru's Scientific and Cultural Vision." *Social Scientist* 44, no. 3/4 (2016): 29–40.
- Merson, John. "Bio-Prospecting or Bio-Piracy: Intellectual Property Rights and Biodiversity in a Colonial and Postcolonial Context." *Osiris* 15 (2000): 282–96.
- Mueller, Janice M. "The Tiger Awakens: The Tumultuous Transformation of India's Patent System and the Rise of Indian Pharmaceutical Innovation." *U. Pitt. l. ReV.* 68 (2006): 491.

Singh, Harkishan. "Sahib Singh Sokhey (1887-1971): An Eminent Medico-Pharmaceutical Professional." *Indian Journal of History of Science* 51, no. 1 (2016): 238–47.

Tobbell, Dominique A. "'Who's Winning the Human Race?' Cold War as Pharmaceutical Political Strategy." *Journal of the History of Medicine and Allied Sciences* 64, no. 4 (2009): 429–73.

Tyabji, Nasir. "Gaining Technical Know-How in an Unequal World: Penicillin Manufacture in Nehru's India." *Technology and Culture* 45, no. 2 (2004): 331–49.

Tyabji, Nasir. "Negotiating Nonalignment: Dilemmas Attendant on Initiating Pharmaceutical Production in India." *Technology and Culture* 53, no. 1 (2012): 37–60.

Tyabji, Nasir. "Aligning with Both the Soviet Union and the Pharmaceutical Transnationals: Dilemmas Attendant on Initiating Drug Production in India," 2010.

Dissertations

McFadyen, Richard Edward. *Estes Kefauver and the Drug Industry*. Emory University, 1973.