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with the Pharmaceutical Transnationals:
Dilemmas attendant on initiating Drug
Production in India**

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Nasir Tyabji

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ALIGNING WITH BOTH THE SOVIET UNION AND WITH THE PHARMACEUTICAL TRANSNATIONALS

Dilemmas attendant on initiating Drug Production in India

*Nasir Tyabji**

[Abstract: The paper discusses the processes typically underlying the Government of India's technological choices in the mid 1950s, with a case study of the pharmaceutical industry. It argues that questions of the future development of India's pharmaceutical industry was impacted by debates over placing it in the public or private sector, and over securing finance from the government's own budget, from transnational corporations or through Soviet aid. A close scrutiny of the trajectory of these debates reveals how the highly contested conception of the required scope of the production process finally emerged. This scope then determined why, when faced with an offer from the USSR for an integrated pharmaceutical complex also manufacturing dye intermediates; and from the German conglomerate Bayer for a standalone plant for chemical intermediates, both for drugs and dyes, the Government decided to accept the Bayer proposal.]

1. Demarcating Technology Acquisition Strategy: Planning Commission and the Public Sector

The problems of initiating indigenous production in new and advanced areas of manufacture are not limited to the oligopolistic market in technology, the fact that a few transnational corporations possess the proprietary knowledge required for manufacture.¹

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¹ These issues have been well discussed in the first two chapters titled "Dependence, Development and Technology" and "Impulses, Opportunities and Constraints" of Baldev Raj Nayar's *India's Quest for Technological Independence* (Delhi, 1983); there is a detailed and more critical account of the overall strategy of industrial development in Jagdish N. Bhagwati and Padma Desai's *India: Planning for Industrialisation* (London, 1970). A more sympathetic discussion of issues of industrialization and of development can be found in G.K. Shirokov's *Industrialisation of India* (Moscow, 1973) and in Sukhumoy Chakravarty's *Development Planning: The Indian Experience* (Delhi, 1989). For an account of the relationship between the Planning Commission and operational ministries during this period, see Medha Kudaisya, "'A Mighty Adventure': Institutionalising the Idea of Planning in Post-colonial India, 1947-60" *Modern Asian*

It lies also in the conglomerate nature of these corporations, in the fact that their operations cover many areas, including both those where the technology market is relatively competitively organized and those where it is highly concentrated.² The complexity of initiating planned industrialisation is further demonstrated by two other issues. The first lies in the demarcation of areas of activity for the public and the private sectors, while the second lies in devising measures to ensure that large projects extending over a number of years are assured of adequate funds for their implementation without discontinuities occasioned by fund shortages. The first problem was sought to be addressed in India by a statement of policy, the Industrial Policy Resolution which laid out the areas reserved for public sector initiative, for ventures by both the public and private sectors, and those in which the private sector would normally have complete responsibility. Corresponding to these two sectors, a Ministry of Production was established to deal with public sector projects, while the existing Ministry of Commerce and Industry dealt with the private sector. To ensure coordinated investigation of projects in the two sectors it was decided by the Cabinet that the National Industrial Development Corporation (NIDC), located in the Commerce and Industry Ministry would coordinate with the Production Ministry in the choice of projects it investigated.³ Secondly, to ensure coordination between the operational and the financial aspects of planning, it was required that financial assistance given by the government to the private

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- ² When, for instance, it was brought to the notice of the Government of India that the Imperial Chemical Industries (ICI) were charging a higher price for their supplies of soda ash (sodium carbonate) in India than the prices charged in Britain (net of freight and insurance), some investigation was initiated. It was, however, found that the alternative suppliers, whether in Germany, Japan or the United States quoted still higher prices. Although it was possible to bring pressure on ICI to reduce prices, by the powers that lay with the Reserve Bank of India, and under various income tax provisions, these steps were not considered advisable. The point was that though the technology for manufacture of soda ash was already available in India, for the large scale expansion envisaged in the Second Five Year Plan, the cooperation of ICI as technology supplier was a factor not to be ignored. More critically, ICI had shown itself to be helpful in providing the technology for the production of industrial explosives and dyestuffs through joint ventures with Indian capital. The Government was therefore urged not to force the issue of soda ash price differentials beyond a point. Letter No 8-PMH/54, 21 April 1954 from Jawaharlal Nehru to T.T. Krishnamachari, Minister for Commerce and Industry, Jawaharlal Nehru Papers (henceforward JN papers), file 248. p. 17 and letter D O No 1391/CIM/54, 1 May 1954 from Krishnamachari to Nehru, JN papers file 251. Pp. 25–26. All personal papers referred to in this paper are held in the Archives of the Nehru Memorial Museum and Library, New Delhi.
- ³ Meeting of the Production Committee of the Cabinet held at 4.30 pm on Thursday, the 18th November 1954 in the Cabinet Room Parliament House Case No 7/54/PDC-9 *National Industrial Development Corporation undertaking study, investigation and formulation of projects for Certain Industries*. JN papers file 296, p.166

sector would be cleared by the Planning Commission, for such assistance was drawn from the aggregate plan resources.⁴

As the industrial strategy underlying the Second Five Year Plan evolved, the emphasis on the creation of capacities in capital goods was increasingly evident. In the chemical industries the corresponding transition was towards the upstream segments of the industry. In the case of dyestuffs, attention moved to dye intermediates. It was argued that unless these were indigenously manufactured, the foreign exchange saved by dye manufacture in the country would be small, as this contributed a marginal share of the total value added in the entire production process. In a decisive move away from seeking technological collaboration from established *manufacturers*, it was recommended that advice should be sought from the independent Italian *consultants* Montecatini, who had no interest in the actual market for dyes.⁵

2. The Pharmaceutical Industry: Ownership and Sources of Technology

While these plans were in the process of evolution, the Prime Minister's attention was drawn to plans germinating in the Planning Commission for the extensive development of the drug industry largely in the private sector. This caused Nehru considerable concern. It was not, as he mentioned, that he was opposed to private Indian industry, but he envisaged a situation where these firms, under terms of collaboration with American companies would lead to foreign control in an essential industry and prices maintained at high levels. He was particularly exercised by the proposal to grant the loan to the dyestuff project mentioned earlier, which was also to have a pharmaceutical component. Nehru made the categorical point that the base for the drug industry should lie in the

⁴ The procedure of granting a loan of Rs 3 crore (30 million) negotiated between the Finance and Commerce and Industry Ministries to an Indian firm to develop dyestuffs in collaboration with ICI, was disapproved of because the Planning Commission had not been consulted on the financial implications of the loan, although the technical aspects of the project had been closely monitored by the Commission. Note of explanation enclosed with secret letter 10 December 1954 from K C Neogy, Member in charge of Industries, Planning Commission to Jawaharlal Nehru; Nehru's letter 24 December 1954 to Neogy; and Nehru's letter 24 December 1954 to T.T. Krishnamachari with Krishnamachari's response in secret letter D O 1/CIM/55, 5 January 1955, JN papers file 307, pagination unclear and T.T. Krishnamachari Papers (henceforward TTK papers) correspondence with Jawaharlal Nehru 1955, Pp. 2–5.

⁵ Secret note for the Heavy Industries Committee of the Cabinet on the *Projects to be processed or investigated by the National Industrial Development Corporation*, enclosed with Cabinet Secretariat memo No 132/CF/55 24 August 1955. By a subsequent memo of 2 September 1955, it was decided to reach a decision by circulation, and the proposals in the note were declared approved by a further memo of 7 September 1955. JN papers file 380, Pp. 113–21.

public sector. This was not a proposition that was favoured by transnational corporations but it was a proposal made feasible by a Soviet offer of technical and financial assistance.⁶

The Soviet offer, which lay behind Nehru's decisive statement of policy, had originated earlier, during a visit to the USSR in July 1955 by Santokh Singh Sokhey, the principal supporter during an earlier assignment with the World Health Organisation (WHO) of the collaboration that led to the establishment of the public sector Hindustan Antibiotics.⁷ The negotiations were for technological support for a pharmaceutical complex consisting of plants for the production of drugs from medicinal plants, of synthetic chemical drugs including sulfa drugs, and anti-malarial and anti tuberculosis drugs, antibiotics including streptomycin and aureomycin, and for vitamins. Critically for future developments, the complex was to be supplied by a plant for intermediates suitable for both drugs and dyes manufacture. The estimated capital costs for the erection of all the plants was reportedly only half of India's annual expenditure on drug imports. The Indian Ambassador to the USSR, in reporting this progress to Nehru sought his personal involvement in the proposal as he was concerned that existing commercial interests would stall further progress.⁸

Nehru's reaction at the time was guarded, and he informed Sokhey that the resource position would have to be assessed in relation to other commitments. However, he sent a copy of Sokhey's note to J.C. Ghosh, a member of the Planning Commission with a distinguished career as a scientist and educational administrator asking for his opinion both as a member of the Commission as well as a scientist.⁹ At this stage Nehru also showed some wariness at depending on the USSR to the extent the proposal required.¹⁰ Simultaneously, he wrote to T.T. Krishnamachari, Minister for Commerce and Industry. In this letter he emphasized the advantage of an integrated scheme for the manufacture of synthetic drugs, antibiotics, vitamins, alkaloids and anti malaria drugs, as suggested in

⁶ Secret letter No 574-PMO/55, 8 October 1955 from Jawaharlal Nehru to J.C. Ghosh, Member in charge of Education in JN papers file 390, p. 179.

⁷ There is an account of this in Nasir Tyabji, "Gaining Technical Know-How in an Unequal World: Penicillin Manufacture in Nehru's India," *Technology and Culture*, April 2004, Pp. 331–349.

⁸ Secret letter No 29(3)/55, 21 July 1955 from K.P.S. Menon to Jawaharlal Nehru in JN papers file 363, Pp.108–09.

⁹ Ghosh was the Director of the Indian Institute of Science, Bangalore (1939–1947) and later, of the first Indian Institute of Technology at Kharagpur (1950–54). In between, he worked for the Government of India as Director General, Industries and Supplies in the Ministry of that name (1947–50). Before joining the Planning Commission in 1955, he had been the Vice Chancellor of Calcutta University for a year.

¹⁰ Letters no 473-PMO/55 to S.S. Sokhey and no 476-PMO/55 to J.C. Ghosh, both of 16 September 1955 in JN papers file 382, Pp.127–28.

the Soviet scheme. This complex was to be based on the edifice of indigenous plants for the production of both primary chemicals and drug intermediates.¹¹

Krishnamachari's response reflected both his own predilections of the time and the more settled (and pronounced) ideological inclinations of his Ministry.¹² He agreed that though there was some presence of the private sector, there was a large field open for the State sector.¹³ The Pharmaceutical Enquiry Committee, which had submitted its report the previous year, had laid out the broad outlines of approach.¹⁴ There was a clear attempt here to denigrate the significance of the integrated drug project by pointing to existing capacities in sulfuric, hydrochloric and acetic acids, chlorine, caustic soda (sodium hydroxide), and calcium carbide. Other chemicals mentioned in the Soviet scheme could also be produced as by-products in existing plants. Benzene and toluene were available in small quantities and benzyl and benzene from the coal tar by products of the steel plants. Krishnamachari ended by re-emphasising the need to tailor the Soviet scheme to existing production capacities.

Responding to the tone implicit in Krishnamachari's letter M.O. Mathai, Nehru's Special Assistant, questioned the ethical basis on which India's pharmaceutical industry should rest. Pointing to the tendency of transnational corporations to demand an undertaking that prices would be maintained at specific levels, irrespective of production costs, Mathai maintained that even in the absence of such an undertaking, such firms kept prices high by creating bottling plants or, at best, manufacturing the penultimate process

¹¹ Secret letter No 575-PMO/55, 8 October 1955 from Jawaharlal Nehru to T.T. Krishnamachari in JN papers file 390, p.173.

¹² Writing two years later (and with two changes in Minister) Nehru was to remark "...I am afraid that our Commerce & Industry Ministry, dealing with private firms as it does, is inclined to think in terms of private firms. They have not quite grasped the fact that we are aiming at greater State control of the essentials of life and a socialist pattern. In regard to drugs, this is particularly important." Note No 2369-PMH/58 to Secretary General, Ministry of External Affairs, 15 September 1958 in JN Papers file 650, p.280.

¹³ Dealing with the question of financial aid to the dye intermediates projects, he stated that there were currently three plants for the manufacture of intermediates at various stages. All of them had collaborations with foreign firms. Interestingly, at odds with the Cabinet decision to explore the possibilities of dye manufacture through consultants free of association with any manufacturing interest, Krishnamachari's letter claimed that the special characteristics of the industry and the emphasis placed on quality of the end product required these collaborations. Unwilling to change the ownership pattern at the stage of intermediates, he advocated a public sector presence, if at all, in the production of the upstream coal tar based primary chemicals. Secret letter D O No 454/CIM/55, 11 September 1955 in JN papers file 391, Pp. 189-90.

¹⁴ Government of India, Ministry of Commerce & Industry, *Report of the Pharmaceutical Enquiry Committee* (New Delhi, 1954).

in India.¹⁵ Ciba Pharma was particularly singled out for this practice. Mathai suggested that data on retail prices in India, the United States and Britain should be sought, as also cost of production statistics. Stating that a working principle should be that the profit motive was eliminated from the manufacture and distribution of drugs, Mathai emphasized the advantage of an integrated complex for drugs, pharmaceuticals and chemicals.¹⁶

3. The Soviet Alternative Emerges

However, in October 1955, discussions were held by the Ministry of Industry with the Soviet Ambassador asking whether the USSR Government would be prepared to send a team of technical experts to prepare a report on the feasibility of a pharmaceutical complex on the lines suggested by Sokhey through the Indian ambassador in Moscow earlier. The request included the examination of the feasibility of a plant which could be used in both the drug and dye industries.¹⁷ This approach to the USSR was probably hastened by the experience of the Government of India in dealing with the US corporations Kodak and Gevaert, and the West German Agfa, all of whom refused to show any interest in establishing a plant to make raw photographic film. An Agfa report which purportedly showed that a raw film plant would be uneconomic in India further stiffened the Government's resolve to bypass transnational corporations if possible.

The Government of India later specified to its ambassador in Moscow the desirable backgrounds of the Soviet team. Significantly, the leader was expected to be familiar in production planning in organic chemicals with practical experience of the manufacture of drug and also, preferably, of dye intermediates. The team was also to include members with expertise in the manufacture of synthetic drugs, in antibiotics with both microbiological and plant operation experience, and a specialist in collection, storage, preservation, extraction and purification of glandular products such as insulin, other hormones and liver preparations.¹⁸

¹⁵ The Kefauver Committee of the United States Congress reported five years later, in 1961, that "...India which does grant patents on drugs, provides an interesting case example. The prices in India for the broad spectrum antibiotics, aureomycin and achromycin are among the highest in the world. As a matter of fact, in drugs generally, India ranks among the highest priced nations in the world — a case of an inverse relationship between per capita income and the level of drug prices." Senate Committee on the Judiciary, Subcommittee on Antitrust and Monopoly, *Administered Prices: Drugs*, 87th Congress, 1st session, 1961, Senate Report 448; see also Estes Kefauver, *In a Few Hands: Monopoly Power in America* (New York, 1965).

¹⁶ Note 13 October 1955 addressed to Jawaharlal Nehru, JN papers file 392, p. 15.

¹⁷ Secret telegram No 09296 from H.V.R. Iyengar to K.P.S. Menon, 20 October 1955 in JN papers file 393, p.244.

¹⁸ Secret telegram No 09297 from H.V.R. Iyengar to K.P.S. Menon, 22 October 1955, and no 471 from Menon to Iyengar, 25 October 1955 in JN papers file 394, Pp. 17 and 197.

The visit of the two Soviet leaders, Nikita Khrushchev and Nikolai Bulganin to India in November 1955 is recognized as a historically important event in Indo-Soviet collaboration in industrial development.¹⁹ In a shift in his position, Nehru now bracketed drugs with heavy industry as areas of priority in discussion with the Soviet leadership. The Health Panel established by J.C. Ghosh in the Planning Commission had suggested that a Drug's Committee be established to suggest measures to ensure that provision of medicine to poor patients in public hospitals and dispensaries at prices appreciably lower than those prevailing was an urgent priority and Nehru argued that questions of risks of adulteration and high prices required that the drug industry should be predominantly in the public sector.²⁰ By the time the Soviet Drug Team arrived in Delhi in February 1956, for a three month tour of India, the Report of the Planning Commission's Drug Committee was ready, and Nehru directed that a meeting be arranged between the two groups.²¹

Sokhey, who appears to have monitored the progress of the Soviet Team, reported to Nehru that the Chairperson of the Development Council for Drugs was ideologically opposed to any state initiative for the manufacture of drugs. Concerned, Nehru asked Ghosh whether the meeting with the Soviet team had taken place and for his opinion of the veracity of the report of the Development Council's Chairperson's political views.²²

This set the context for an acrimonious exchange of opinions on the relative merits of Soviet and Western transnational technologies in these industries, the relative advantages of the payment terms, repayment schedule, and the currency through which the collaboration would be conducted. Responding to a query from Nehru, Ghosh wrote to say that in two meetings with the Soviet Team, he had been impressed by their technical knowledge, so also with their desire to help in the establishment of the drugs and

¹⁹ Nikita Khrushchev was the First Secretary of the Central Committee of the Soviet Communist Party, while Nikolai Bulganin was the Soviet Prime Minister.

²⁰ Letter No 2118-PMH/55, 13 November 1955 from Jawaharlal Nehru to T.T. Krishnamachari and Krishnamachari's response D O No 502-CIM/55 15 November 1955 in T.T. Krishnamachari papers correspondence with Jawaharlal Nehru, 1955, Pp. 159-61.

²¹ Nehru's attention was drawn to the presence of the Soviet Team in Delhi and he wrote simultaneously to the Industry Ministry and to J.C. Ghosh, suggesting a meeting and that a copy of the Planning Commissions' Drug report to be sent to the Industry Ministry to be passed onto the Soviet Team. Memo from Jawaharlal Nehru to his personal secretary, 24 February 1956, memo No 382-PMH/56, 26 February 1956 to the Commerce and Industry Ministry and letter to J.C. Ghosh No 383-PMH/56, 26 February 1956 in JN papers file 422, p. 26 and Pp. 149-50.

²² Letter No 107-PMH/56, 12 March 1956 from Jawaharlal Nehru to J.C. Ghosh in JN papers file 426, p. 189. Under the Industrial Development and Regulation Act which provided the legislative basis for industrial licensing, development councils were established in specific sectors of industry to provide a consultative forum through which the views of industrial interests could be incorporated into policy.

dyestuffs industries in India.²³ Ghosh stated that the Development Council on Drugs and Pharmaceutical Industries established in the Ministry of Commerce and Industry, as part of the consultative procedure devised under the Industrial Development and Regulation Act, was envisaging the development of these industries through private enterprise. The question of establishing a structure by which essential drugs would be made available in the country had received little attention, leading Ghosh to the conclusion that both the Chairperson and members of the Development Council were indifferent to whether the profit motive operated in the drug industry or not.

Nehru sent this letter to Krishnamachari for his comments and received a simultaneously sulky and outraged response.²⁴ Sticking to his point that at the project investigation stage it was irrelevant whether it was finally to be located in the public or private sectors, the rest of the two page letter was devoted to questioning Ghosh's credentials, charging him with appointing individuals from Bengal (Ghosh's home state) on the Planning Commission's Health Panel, being ineffective on the Pharmaceutical Enquiry Committee, uncooperative in liaising with the Pharmaceutical Development Council, inserting his protégés into the Indian liaison team for the Soviet Experts team, and an unexceptional performance earlier as Director General Industries and Supplies. Encouragement to people like Ghosh who, by raising the bogey [*sic*] of the public sector and condemning any individual with whom they disagreed as a proponent of the private sector, would only lead to a situation in which there was neither a public sector, nor any development in the private sector.

4. Orthodoxy Regroups: The Challenges of Plan Finance and Relative Techno Economic Appraisal

The question was not only that of a decision, based on ideological grounds, of the desired distribution of industrial activity between the public and private sectors. Financially, the issue was the size of the Second Five Year Plan and the resources which were to be made available for public sector investment. In the development of the capital goods industry, a distinction could be made between general purpose machinery (or mother machinery) and the industry specific plant. Existing allocations of funds had been earmarked for the heavy capital goods, which would provide the base for specialized machinery manufacture during the subsequent plan periods. However, the immediate requirements

²³ Letter D O No M(E)-567, 17 March 1956 from J.C. Ghosh to Jawaharlal Nehru in JN papers file 428, p. 79.

²⁴ Nehru's confidential letter no 567-PMH/56, 18 March 1956, to T.T. Krishnamachari and Krishnamachari's response in secret D O No 98-CIM/56, 19 March 1956 in JN papers file 428, Pp. 80-82.

of this kind of machinery had also to be kept in mind and additional allocations for projects engaged in their manufacture made available. If the public sector could not expect more resources, then a policy decision on depending to a greater degree on the private sector, and on transnational corporations was urgently due.²⁵

Although Krishnamachari's letter, in which this point was made, did not refer to pharmaceuticals, there were clear implications for the ongoing controversy since no allocations had been made in the existing Five Year Plan for this industry and, indeed, the agreed plan of project appraisal set before the NIDC had not included this industry. Even three months later, after the 1956 Industrial Policy Resolution had been accepted in the Lok Sabha, and the programmes for industrial development during the second plan had been announced, the Ministry of Commerce and Industry made no effort to include the pharmaceutical industry in the revised brief for NIDC. It recommended, however, that NIDC should not be bound by resource constraints to limit its studies to only those areas which had been approved for investment. This implied the separation of project appraisal from the decision to actually execute a project on the entirely reasonable grounds that not only could industrial priorities change, but that there was a considerable amount of time required for detailed project appraisal.²⁶ However reasonable a step, it also allowed the Ministry a certain leeway to preempt investment decisions by producing reports in areas which they considered important. In the context of this paper, an obvious candidate might be a report on the development of the pharmaceutical industry under private auspices taking not only existing production facilities into account, but also existing ownership structures, a matter about which, it will be recalled, Krishnamachari had expressly discouraged any change.

As the below table shows, there were at least 20 transnational pharmaceutical corporations with a presence in India in 1956 with a representative office, a distribution network or a formulations enterprise. A freeze on their current activity would imply that growth within a major market would be effectively stalled. However, the fact remained that some of them with over a thirty or forty year history in India had shown no inclination, almost a decade after independence, to commence production of formulations or finished drugs, let alone intermediates.

²⁵ Letter D O No 120-CIM/56, 1 April 1956 in TTK papers correspondence with Jawaharlal Nehru 1956, Pp. 51–56.

²⁶ Ministry of Commerce and Industry, *Secret Note for the Heavy Industries Committee of the Cabinet*, 5 July 1956, JN papers file 454, Pp. 1–8.

Table 1
Transnational Pharmaceutical Corporations in India 1956*

Name of Company	Year of establishing presence in India	Whether engaged in production of	
		Formulations	Bulk drugs
Abbott Laboratories (India)	1946	No	No
Alkali and Chemical Corp of India	1938	No	No
Anglo French Drug Co (Eastern)	1923	Industrial License in 1955	No
Biological Evans	1953	No	
Boots Co	1929	in 1949	No
Burroughs Wellcome & Co (India)	1912	in 1950	No
Ciba Geigy	1928	Between 1947–51	No
Cyanamid India	1947	in 1953	No
Geoffrey Manners	1943	Information not available	No
German Remedies	1949	No	No
Glaxo Laboratories	1924	in 1947	in 1956
Hoechst Pharmaceuticals	1956		
May and Baker	1928	in 1943	in 1948
Parke-Davis	1907	in 1954	No
Pfizer	1950	c. 1952	No
Rallis	1948	Information not available	No
Reckitt & Colman	1951	Information not available	No
Richardson Hindustan	1951	No	No
Roussel Pharmaceuticals	1956	No	No
Sandoz	1947	No	No
Smith, Kline and French	1950	No	No
Whiffen	1954	No	No

Source: * abstracted from Table 1 in Sudip Chaudhuri "Licensing Policies and Growth of Drug TNCs in India" in Amit Sen Gupta (Ed.) *Drug Industry and the Indian People: Proceedings and Papers*, presented at the "All India Seminar on National Drug Policy" held at New Delhi on 28th and 29th April 1986 (New Delhi, 1986), Pp. 243–54.

The significance of this step (of separating project appraisal from project execution) is further increased when juxtaposed with the Ministry's proposal of sending a team of Indian drug experts to the USSR to follow up on the Soviet Drug team's proposal.²⁷ The

²⁷ Note for the Cabinet, 24 July 1956, *Visit of an Indian Team to USSR to continue the discussions with the USSR Authorities regarding the development of Pharmaceuticals and Drugs on the basis of the report made by Experts of the USSR after their tour in India in March–April 1956* enclosed with Cabinet

Prime Minister and J.C. Ghosh seemed to feel that not only should further developments in the drug industry lie in the public sector, but that the Soviet team had made a persuasive case that the USSR had the knowledge and the capability to provide the assistance India would need. With such strong political support for the public sector/Soviet technology collaboration, the proponents of an alliance with the transnational corporations had only the administrative level of decision-making which they might influence so as to preempt an unfavourable political decision. Thus, the note for consideration by the cabinet had two significant features, both important in terms of the choice that would eventually have to be made between reliance on Soviet technology or on transnational corporation supplied technology.

The first point to be noted concerns the terms of reference for the Indian team. The Cabinet note remarked that the Soviet proposal involved six initiatives. These included three new plants, for antibiotics, synthetic drugs, and organic intermediates for drugs and dyes. Also recommended were extensions to Hindustan Antibiotics, to research facilities in the area of drugs, and an arrangement for hormone production. According to Soviet estimates, the cost of all these initiatives would be Rs 350 million. The note reported that at a meeting with representatives of the Health, Production (public sector enterprises), Defence, Natural Resources and Scientific Research and Finance Ministries along with the Planning Commission, it was felt that further scrutiny of the technological and economic aspects of the Soviet proposal was required. For the proposed Indian team that was to be constituted as a result of this inter ministerial meeting, the Industry ministry suggested terms of reference for cabinet approval. The first of these was that of assessing how far the costs of the project were realistic given that Soviet methods of costing were said to be radically different, and did not take account costs related to research, distribution and publicity. The second term of reference was to examine whether the processes offered were covered by Indian patents held by transnational corporations, necessitating royalty payments. Further, it was to be assessed whether Soviet technology was in all cases the best from an Indian standpoint. Fourthly, a decision was required whether the programme was to be undertaken simultaneously, or in stages, and if so, the phases thereof. The possibility of a decentralized and geographically dispersed system of production rather than a centralized plant was to be examined, and the project wise distribution of production between them, if so. Finally, a special study of antibiotic production in the USSR was to be undertaken so as to gauge whether the Soviet claim that production at Hindustan Antibiotics could be increased without major plant expansion was valid.

Secretariat memo No 140/CF/56, 28 July 1956, together with Nehru's acceptance of the proposal
D O No CD-622/56, 26 July 1956 in JN papers file 458, Pp. 8-16.

An analysis of the terms of reference shows that apart from the first two, the rest were concerned with technological appraisal, requiring expertise in pharmaceutical project planning and in production processes, in particular in the area of antibiotics. In addition, expertise in evaluating patents was essential, specifically in understanding the ways in which preemptive filing of patents was used to create entry barriers, so as realistically to assess the actual as opposed to the apparent barriers that patents filed in India posed to new industrial ventures. Finally, the first term of reference required expertise in the economic and financial appraisal of projects and an ability to discern the actual differences between systems of appraisal in a planned and in a market economy without becoming ensnared in the beguiling but wasteful promotional expenses typical of advanced capitalist economies.

In the note to the Cabinet, the Ministry noted that both the importance of the issues and the far reaching implications of any decisions taken required that the Indian team should be as representative as possible and capable of breaking into smaller groups to study different types of operations. It suggested that non officials, a euphemism for the private sector, should be included in the team. This was certainly an unusual step as in earlier cases involving the steel industry, surely an equally far reaching decision, the private sector was not similarly involved. It was also specified that to undertake a comparison of the technologies available in the USSR the team was also to visit East and West Germany, Switzerland and Italy.

The second point of significance in the note was, then, the actual composition of the team. The 10 member team was headed by the Industrial Advisor in charge of Chemicals in the Ministry of Industry with one of his officials as member secretary. From the public sector, broadly considered, there was a senior scientist from the Central Drug Research Institute, the Managing Director of Hindustan Antibiotics, and a medical doctor from the Health Ministry. The non official members included the Technical Director of Bengal Immunity, a pioneering firm established in 1919 manufacturing vaccines, sera and toxoid with indigenous raw materials and technology; the Managing Director of Italabs, an analytical and testing laboratory specializing in pharmaceutical products in Bombay; a Director of Messrs Bliss and Cotton, chemists with branches in Delhi and Shimla; a chemist from Atul Products, the firm engaged in collaboration with ICI for dyestuff manufacture but with no obvious expertise in drugs; and the Chairperson of the Ministry's Development Council for Pharmaceuticals and Drugs, whose preference for the private sector had earlier been the subject of controversy.

In 1956, the only source of manufacturing expertise in India in drugs and pharmaceuticals was to be found in Hindustan Antibiotics and this was confined to penicillin. However, the company was represented by the Managing Director and not by

anyone with technological experience. In the event the team's report was likely to be dominated by the views of the leader and of the Development Council's Chairperson.

5. The Balance Disturbed:

The Possibility of Soviet Credit for Pharmaceuticals

There was, however, almost simultaneously an interesting move away from reliance on obtaining the most favourable terms of collaboration with transnational corporations towards an appreciation of alternatives. This was exemplified in an exchange of telegrams between the permanent head of the Ministry of Commerce and Industry, then in London, and a senior official in Delhi. The issue was the agreement proposed between ICI and the Kasturbhai Lalbhai owned firm, Atul Products. This firm had been the subject of controversy when the Ministry had granted them a loan without reference to the Planning Commission. It was now emphasized, through these telegrams, that as dye intermediates were a subject which NIDC was to investigate, a collaboration agreement to manufacture the entire range of products included within ICI's original proposal, both finished dyes and intermediates, should no longer be assumed to have the Indian government's endorsement.²⁸ Another indication that with the plan in operation, it was not private investment decisions that would determine how resources, even those privately owned or mobilized, would be allocated to industrial projects was illustrated by a remonstrance administered by Nehru to the industry ministry. Nehru was aghast at the support extended by the ministry to a project to expand the production of rayon silk. Nehru objected to the operating principle followed by the ministry of considering the proposal in isolation, thus ignoring the opportunity costs of such an investment.²⁹ The consequences of considering projects in isolation was also brought to Nehru's notice by Sokhey who, having noticed a press note issued by the renamed Ministry for Heavy Industry for expression of interest in the manufacture of dye intermediates, pleaded that such an initiative should not reduce the viability of the integrated Soviet drug scheme which would also produce a certain quantity of dye intermediates.³⁰

The possibilities of not only alternative sources of technology (which had until then been the focus of discussion), but also of aid to cover the foreign exchange components of projects was mooted in September 1956 by the Minister in the Production Ministry,

²⁸ Secret telegrams No 1855, 23 July 1956 from H.V.R. Iyengar to L.K. Jha and No 09236, 24 July 1956 from Jha to Iyengar in JN papers file 457, p. 16 and p. 71 respectively.

²⁹ Secret letter No 2462-PMH/56, 13 October 1956 from Jawaharlal Nehru to Swaran Singh, Minister of Commerce and Consumer Industry in JN papers file 479, p. 200.

³⁰ S.S. Sokhey's letter, 2 October 1956 to Nehru forwarded by the latter to K.C. Reddy by letter No 2396-PMH/56, 7 October 1956 in JN papers file 478, p.105 and Sokhey's letter to Nehru, 13 October 1956 in JN papers file 479, p. 260.

charged with implementing public sector projects, after a discussion with a Soviet embassy official. He reminded Nehru that it had been a seller's market in steel plant supply until the USSR intervened by providing India both technology and credit, after which India rapidly became a buyers market, the Minister wanted to extend the same principle to refineries and fertilizer plants. He argued that even an approach to the Soviet Union would yield better terms, including credit, from other countries. The long term credit and rupee payment terms meant that in the case of relatively shorter gestation projects such as refineries and fertilizer plants (as opposed to steel plants) repayment could be allocated from the revenue streams of the plants.³¹ The proposal was accepted and the Chief Industrial Advisor, then leading the Indian Drug Team in the USSR was asked to extend his brief and examine the fertilizer and refinery technology available there. In October, K.C. Reddy, the Production Minister was offered during a visit to the Soviet Union a credit of 500 million roubles, about 600 million rupees, to establish plants for the manufacture of coal mining machinery, fertilizers, optical glass, and an oil refinery. It was also proposed to expand production of the Hindustan Antibiotics plant beyond penicillin, to include streptomycin, bycillin and vitamins. The loan terms were to be the same as those extended to the Bhilai Steel plant project: credit for 9 to 10 years at 2½ per cent interest rate.³² A little later the note from the ministry for the cabinet's consideration made two points in favour of accepting the offer. Particularly in the context of the acute shortage of rupee funds, and even more so, of foreign exchange, it was argued that the proposal would help to meet the plan targets. The long term nature of the credit, about three to five times the duration of project completion, meant that repayment could take place through the earnings of the plants to be established. A successful completion of the arrangements, extending Indo Soviet cooperation beyond an isolated steel plant into major areas of industrial activity would also induce the transnational corporations to offer better terms, in terms of credit and in technology transfer.³³

Although the Soviet proposals had included expansion of the Hindustan Antibiotics plant, Nehru was clear that the first priority was the heavy engineering industry, which was the base for the rest of the industrial development. When the question of using the

³¹ Secret note by K C Reddy, 12 September 1956, attached to his letter P. No. 1022/56 to Jawaharlal Nehru; T T Krishnamachari's response to this letter, 14 September 1956; and Nehru's secret letter No 492-PMO/56, 20 September 1956 to Reddy accepting the proposal for initiating talks with Soviet authorities in JN papers file 475, Pp. 144–47.

³² Secret letter, 28 October 1956 from K C Reddy to Jawaharlal Nehru, copied by Nehru to the Finance, Home and Commerce and Industries Ministers in JN papers file 485, Pp. 105–07.

³³ Ministry of Production, *Note for the Cabinet: Offer of long term credit by USSR*, 14 November 1956, circulated with Cabinet Secretariat memo No 66/CM/56, 14 November 1956 in JN papers file 487, Pp. 245–48. This proposal was accepted by the Cabinet at its meeting on 15 November 1956 and the minutes of the meeting circulated as case no 307/66/56 in JN papers file 488, p.205.

Soviet credit for establishing the infrastructure for the oil refining industry was raised, he reminded the Minister for Natural Resources that heavy engineering was the key industry. This was a long term perspective towards addressing the issue of technological self reliance, and was a notable decision given the recent and ongoing experiences in dealing with the transnational oil companies, which had been commissioned to establish oil refineries in the Mumbai area.³⁴

6. The Swing Tilts Further: Pharmaceuticals in the Public Sector

By April 1957, with the results of the elections held earlier in the year marking a leftward movement in political sentiments, Nehru was more categorical, not only about the industries critical to the plan, but also about their being developed by the public sector, and even of the scope of Soviet aid. In the concept of basic industries was now included the drug industry in addition to machinery, which implied that, excepting those units which already existed, the drug industry was to be in the public sector. Even on questions of technology and finance, he, in effect, directed that the principle that underlay the Government's decisions on the strategy which established Hindustan Antibiotics, resistance to pressures to collaborate with US transnationals, should be applied to the entire drug industry. Equally significant, as will be seen, was Nehru's dissatisfaction with the superficial way in which the evaluation of the Soviet drug project had been undertaken, and his hint that this was unjustified if based on the unavailability of Soviet aid, which had been allocated to the heavy engineering projects: it was not inconceivable that the quantum of aid might be increased to accommodate this project. Above all, he concluded, there should be no compromises in favour of private sector participation in these basic industries. This letter, addressed to the operational head of the Planning Commission was also sent to both the Cabinet Minister and the Minister of State in charge of Industry.³⁵

This decisive intervention led to further discussion in the Planning Commission. J.C. Ghosh circulated a note objecting to the conclusions reached by the Indian Drug Team

³⁴ Confidential letter No 2664-PMH/56, 16 November 1956 from Jawaharlal Nehru to Keshava Deva Malaviya, Minister for Natural Resources, JN papers file 488, p. 256. Malviya was the major figure in the establishment of the oil refining industry in India, and there is a good account of the circumstances surrounding these initiatives in H.N. Kaul's *K.D. Malaviya and the evolution of India's oil policy* (Delhi, 1991). See, also, Biplab Dasgupta, *Oil industry in India: Some economic aspects* (London, 1971).

³⁵ Confidential letter No 548-PMH/57, 11 April 1957 from Jawaharlal Nehru to V.T. Krishnamachari, Deputy Chairperson of the Planning Commission, with copies to Morarji Desai and M.M. Shah, JN papers file 518, p. 200.

which had concluded that it was not in favour of accepting Soviet aid except for minor projects such as vitamin C production.³⁶ This note had been communicated to the Industry Division of the Commission two months earlier, in February 1957. It was now circulated amongst various ministries, Finance, Defence, Production, Railways and Commerce and Industry, and widely within the Planning Commission. Ghosh's note stated categorically that he was unable to accept the Industry Division's acquiescence in the Indian Drug Team's negative evaluation of Soviet technological capabilities in pharmaceuticals. Ghosh's note took up the major points that the Indian Drug Team had raised in objection to the Soviet proposal. The first was the problem of over capacities as various industrial licenses had already been given to private firms for capacities to the target established by the Development Council. Ghosh suggested that the Soviet aided plants would be operational during the Third Plan period (1961–66), by which time the demand for drugs would increase considerably, particularly with the fall in prices made possible by state ownership. The Indian Team had not obtained new data on costs of production, but on the basis of the earlier Soviet Team's calculation, it seemed that the ex factory price of a representative selection of drugs would be comparable to existing import prices, if not lower. The Indian team's claim that Soviet yields were low was merely an assertion as no comparable data of competing manufacturers was provided. The opinion of the Chief Mycologist at Hindustan Antibiotics who had visited modern antibiotic plants in the Soviet Union had not been incorporated into the report. The four plants recommended by the Soviet team were themselves small relative to contemporary design standards, and the inclination of the Indian Team towards a still larger number of plants would raise overhead costs unnecessarily. Finally, the question of patents was to be handled through using provisions in the patent law to issue compulsory licenses where required and, more generally, through the application of mind to problems as they arose rather than viewing them as a priori insurmountable.

7. Additional Soviet Credit for Pharmaceuticals: A Technological and Financial offer not to be refused?

Ghosh's circular met with no response from the Industry Ministry, the protagonist of the view expressed by the Indian Drug Team. On the contrary, the chances of acceptance of the Soviet proposal gained strength only after another visit to the USSR by Sokhey in June 1957. Probably acting on the oblique reference made by Nehru that there were possibilities of Soviet aid increasing to cover the pharmaceutical project, Sokhey obtained

³⁶ Memo, 17 April 1957 from J.C. Ghosh to Deputy Chairperson, Planning Commission enclosing note, 15 February 1957, *Report of the Indian Delegation to Russia for the Drug Industry*, circulated with Planning Commission circular no PC(CDN)1/2/57, 22 April 1957 in JN papers file 520, Pp. 277–84.

informal indications that a further credit of 100 million roubles might be forthcoming to cover the three new plants and the expansion of Hindustan Antibiotics. The Indian Ambassador in Moscow followed on Sokhey's telegram with his own, asking permission to approach the Soviet Government formally. However, Nehru was at that point leaving for Europe and instructed that the matter should not be proceeded with until there was consultation with his colleagues on his return.³⁷

In the first week of July, the Indian Ambassador in Moscow wrote formally to Nehru asking about the progress of the Soviet drug proposal. He had himself been asked about the progress by the Deputy Chief of the Soviet Department of Economic Relations. The letter emphasized the generosity of the offer, mentioning the strain on the USSR's resources caused by the concessions they had made both to Poland and Hungary after the events of 1956. The problems raised by the Indian drug team to the project were not, in his view, insuperable.³⁸

Though not insuperable, what appeared an immovable mountain was the firmly held position of the Commerce and Industry Ministry. They undertook, dutifully, a reexamination of the original Soviet proposals.³⁹ These were firstly, a new antibiotic plant with an annual capacity of 60 million mega units of penicillin, streptomycin and other antibiotics, dextran and vitamins B-2 and B-12; secondly a chemical pharmaceutical plant to produce 2300 tons of synthetic drugs and vitamins and a number of intermediates required in small quantities totaling production of 2700 tons per annum; thirdly a special plant for the production of intermediates required on a large scale; and, finally, expansion of Hindustan Antibiotics to increase production up to 40 million mega units per annum of penicillin, and to establish production of streptomycin, chlortetracycline and other antibiotics with an annual total output of 85 tons, together with vitamins B-2 and B-12. The Ministry argued that all four projects would cost about Rs 350 million while the Soviet aid amounted to 100 million roubles or Rs 120 million. The Ministry raised the question of where the remaining Rs 230

³⁷ Sokhey's secret telegram No 183 to M.O. Mathai, 12 June 1957 in JN papers file 533, p. 306; K.P.S. Menon, Top Secret telegram to Nehru No 184, June 13 1957, file 534, p. 102; Nehru's Top Secret telegram to K.P.S. Menon, June 14 1957, file 542, p. 8; Nehru's memo instructing that a note providing the substance of the three telegrams should be submitted to the Home, Commerce and Industry, Finance and Health Ministers and to the Deputy Chairperson of the Planning Commission. The Minister of State for Industry was also to be sent a copy. JN papers file 534, p. 74.

³⁸ Secret letter No SU-13/57, 9 July 1957 from K.P.S. Menon to Jawaharlal Nehru, JN papers file 536, p. 192.

³⁹ Undated Top Secret note *Utilisation of additional aid of 100 million roubles likely to be available from the USSR for drug projects* enclosed_with Top Secret letter, 22 July 1957 from Morarji Desai, Minister for Commerce and Industry to Jawaharlal Nehru, JN papers file 538, Pp. 177-80.

million would come if, as the Soviet view presumed, this was to be entirely rupee expenditure. In any case, the technical opinion in the Ministry was that about 50% of the total cost of a project was a more realistic estimate of the total foreign exchange cost, which implied an external burden of Rs 50 million.

Having raised in its first few paragraphs the problem of finances, the Ministry commented that this was an issue for the finance Ministry to consider. The note then turned to the substantive concerns. The Inter Ministerial Study Group which had examined the Soviet proposals in August 1956 had concluded that rising trends in antibiotic consumption indicated the need for a second antibiotic plant and the Ministry supported this project with production of 60 million mega units. However, as far as the other three projects were concerned, the Ministry felt no need to reconsider its ongoing schemes. Pointing out that both the drug intermediates and the chemical drugs and vitamins plant projects had been examined during consideration of the first offer of Rs 500 million roubles Soviet aid, it was argued that negotiations with Bayer, pioneers in the field, for an intermediates plant for drugs and dyes were going smoothly. Satisfactory terms of credit had also been offered and the proposal was under consideration with the Finance Ministry. For synthetic drugs and chemicals and vitamins, the collaboration of Merck Sharp and Dohme had been offered. Although US firms were normally unwilling to go into partnership with public sector units, the US Ambassador had intervened and a Merck representative was currently in the country collecting data so as to give concrete shape to a collaborative project. The Ministry was unwilling to change its position on these two projects arguing that West Germany and the United States offered superior technology in these specific areas. In the case of Hindustan Antibiotics, too, the Ministry did not favour disturbing ongoing expansion plans, citing also the original agreement with the United Nations Technical Aid Agency, with which linking Soviet equipment would not be desirable.

Finally, quoting a remark by Nehru that Soviet aid should be used, as far as possible, for independent large projects, the expansion was not considered an appropriate use of Soviet aid. The Ministry then turned to some of the other proposals made by the Soviet Team and suggested that the balance of Rs 350 million could be utilized for plants for hormones and alkaloids and another for medical instruments and appliances, including dental instruments. As in these areas, the Ministry was of the view that Soviet technology was at par with world standards, and these projects could not be implemented without external technological and financial assistance, the Ministry recommended their acceptance. As a parting shot against the larger Soviet proposal the Minister complained to Nehru of the impropriety of Sokhey, a private citizen, approaching the Soviet authorities for requests for aid.

Nehru, while agreeing that Sokhey's direct approach to the Soviet Government was not a procedure to be appreciated, maintained that as an offer had been communicated and was in the knowledge of the Ambassador in Moscow, an answer would need to be given. He advised that the matter should be discussed within the government and the Finance Ministry's opinion sought. Diplomatic channels could then be used to clarify details.⁴⁰

Within a couple of weeks, Sokhey wrote a detailed account of his visit to the Soviet Union and put forward the case for accepting the aid offer.⁴¹ Significantly, he explained that he had left for Moscow after meeting Nehru and a couple of days before Nehru's decisive intervention with the Planning Commission in early April where, it will be recalled, Nehru had hinted that Soviet aid could be expected to expand to cover the pharmaceutical project. In fact, Sokhey's letter suggested that there could be still more aid if the initial estimates of Rs 350 million proved an underestimate. The letter pointed to several more advantages, both technological and organizational. The entire project would be negotiated on a government to government basis with a single Soviet agency working to a stipulated schedule, a procedure which had shown favourable results in the case of the Bhilai Steel Plant. Not only would no secrecy clauses be enforced enabling training of technologists from other Asian and African countries, but Indians would themselves have access to Soviet plants and research laboratories. The plants would be operated under Indian management and with Indian personnel, providing learning opportunities for 6000 chemists and technicians. Finally, the Soviet offer included aid to make India self sufficient in the production of equipment for the chemicals' industries, helping to set up a pilot plant where glass lined kettles, tanks, alkali and acid resisting vessels and chemical centrifuges would be manufactured. Ignoring the Industry Ministry's note, Nehru asked the Ministry whether definite commitments had been made to any foreign firms, emphasizing the advantages of the Soviet offer, particularly in the situation of very tight foreign exchange.

However, the Ministry continued to argue its own position, conceding only that both the drugs and dye intermediates plant and that for vitamins and synthetic hormones would be in the public sector.⁴² It continued to press for collaboration with Bayer for intermediates, and with Merck Sharpe and Dohme for both vitamins and synthetic

⁴⁰ Top Secret letter No 1244-PMH/57, 22 July 1957 from Jawaharlal Nehru to Morarji Desai, Minister for Commerce and Industry in JN papers file 538, p. 210.

⁴¹ Letter, 9 August 1957 from S.S. Sokhey to Jawaharlal Nehru, copy sent to Manubhai Shah, Minister for Industry with Nehru's letter No 1429-PMH/57, 11 August 1957 in JN papers file 545, Pp. 105-09.

⁴² This was emphasized orally on the telephone by the Minister for Industries to M.O. Mathai, Special Assistant to Jawaharlal Nehru. Note by Mathai to Nehru, 16 August 1957, enclosing letter statement by Manubhai Shah to Nehru, 16 August 1957 in JN papers file 546, Pp. 166-68.

hormones and the possible expansion of Hindustan Antibiotics. However, the controversy forced the Ministry for the first time to specify the parameters by which it assessed the attractiveness of collaboration offers. The four parameters were: that dyes and drug intermediates and basic drugs should be manufactured in the public sector with the "...best technical and financial collaboration that would be available;" the agreement should provide complete scope for the exchange of both continuous research efforts and of techniques; the time interval to completion was a factor to be considered; and, finally, the terms of the credit should be acceptable to the Government of India in the circumstances of a severe foreign exchange shortage.

M.O. Mathai prompted Nehru to ask whether the agreements with the West German and US transnational corporations required an undertaking by the Government of India that the products, including exports, would be sold at predetermined prices. A significant initiative was also taken by Mathai at this point: he suggested that if the social aspect (provision of life saving drugs at affordable prices) was adequately addressed by the collaborations with the transnational corporations, it would be advisable to establish an integrated pharmaceutical industry not entirely dependent on the Soviet offer. The two plants, for antibiotics and for alkaloids on the one hand and endocrines and glandular hormones on the other, would, in any case, exhaust the Soviet aid offer of 100 million roubles.⁴³

Sokhey had met Manubhai Shah the Minister for Industry and was alarmed at the procedure that the Ministry had evolved to overcome the foreign exchange problem connected with collaboration with the transnational corporations.⁴⁴ This lay in the proposal to offer minority equity shareholding in return for the technology. Sokhey was particularly disturbed by the nonchalance that, in his opinion, accompanied this plan. It was a sheer delusion, he wrote to Nehru, to believe that the Indian personnel that would be available to manage these concerns would be able to deal with the experienced and determined scientists and technologists at the command of the transnational corporations. Equally of concern to Sokhey was the price maintenance policy followed by these corporations which he illustrated from his own experience.⁴⁵ On the basis of this

⁴³ Note by Mathai to Nehru, 16 August 1957. *Op cit.*

⁴⁴ Letter, 16 August 1957 from S.S. Sokhey to Jawaharlal Nehru, JN papers file 547, Pp. 59–60.

⁴⁵ Sokhey gave an instance, where in 1944 acting on behalf of the government of Bombay, he had failed in the Calcutta High Court to get a compulsory license for the manufacture of sulfathiazole, then under a patent. Sokhey's grounds for filing the suit were that the patent was not being used to manufacture the drug in India, that existing supplies were inadequate to meet the demand, and that the prices were excessively high. Sokhey was soon after visited by a representative of May and Baker, who told him that they strongly objected to the plea of the high prices charged. The private drug industry was not prepared to let their price policy be questioned in public and as this was the first case in India under the Patents Act where the

letter Nehru wrote again to the Minister for Industry, asking for clarifications both about commitments to maintaining prices and about the royalties that would be payable (it will be recalled that the Soviet offer was free of royalty payments).⁴⁶

8. Compromise Reached: Public Sector in Pharmaceuticals, Transnational Technological Collaboration

There the matter rested for about a month after which it was raised by the senior Minister in the Industry Ministry, Morarji Desai. Nehru suggested that the question could be discussed in the Economic Affairs Committee of the Cabinet where the Soviet offer would also be taken into account, and the Industry Ministry was asked to prepare a position paper.⁴⁷ When no response from the Industry Ministry was forthcoming, Nehru wrote again to ask for progress.⁴⁸ It appeared that the Industry Ministry had fortified its position by sending the position paper that it had prepared for the Economic Committee of the Cabinet to the Committee of Economic Secretaries for their comments. Predictably, this Committee had endorsed the Industry Ministry's proposal, to seek West German collaboration for dyes and US collaboration for vitamins, synthetic drugs and synthetic hormones.⁴⁹ The Minister, in adding to this information, added that the US Ambassador had taken personal interest in the matter at the suggestion of Morarji Desai. Merck Sharpe and Dohme, in the opinion of the Ministry was a firm with an outstanding reputation technologically and that it was felt that without the Ambassador's intervention, an early decision by the firm could not be expected. The visit by the Secretary in the Ministry to West Germany and the active interest of the Finance Minister in the collaboration with Merck Sharpe and Dohme in particular, had also helped to sustain the interest of the transnational firms in the project. The Industry Minister suggested that after a favourable decision at the political level, the Finance Minister, then in the US, could be asked to take the matter further. It was also suggested that the field of synthetic drugs could be divided into the two categories of Sulfa drugs, Anti Tubercular

private drug industry as a whole took it very seriously. They had collected a fund of Rs 600 thousand (in 1944 prices) to argue the suit. If, on the other side, Sokhey were to withdraw the plea of excessive price, that is to agree to charge the import price on drugs manufactured under license in India, the industry would not defend the case. In the event, Sokhey did not yield and lost the case. *Ibid.*

⁴⁶ Letter No 633-PMO/57, 18 August 1957 from Jawaharlal Nehru to Manubhai Shah, JN papers file 547, p. 61.

⁴⁷ Confidential letter No 1689-PMH/57, 2 September 1957 from Jawaharlal Nehru to Morarji Desai and Confidential memo No 1692-PMH/57, 2 September 1957 in JN papers file 551, p. 79 and p. 94 respectively.

⁴⁸ Confidential letter No 774-PMO/57, 19 September 1957, JN papers file 555, p. 363.

⁴⁹ Letter, 22 September 1957 from Manubhai Shah to Jawaharlal Nehru enclosing Secret undated note by the Ministry of Industry with the recommendations of the Committee of Secretaries, JN papers file 556, Pp. 137-41.

Drugs, Analgesics and Anti-Pyretics on the one hand, and Vitamins and Synthetic Hormones on the other. The first set should be considered for Soviet aid, and the second considered as part of the Soviet project only if negotiations with Merck were not successful. Finally, the note pointed out that in such critical industries, while questions of finance and credit were important, these factors should be subordinate to that of technological superiority.

The Ministry note that had been considered by the Committee of Secretaries stated that as had been mentioned earlier the services of an Italian firm of consultants, uninvolved in manufacturing, had been asked to formulate plans for a drugs and dyes intermediates project. Both British and West German interests sent teams of their own to study the problem and submit recommendations. These three teams made estimates of the requirements of dye intermediates to which they added the demands for drug intermediates given to them by the Ministry. Conversely, the Soviet Team was given the Ministry's estimates of requirements of *dye* intermediates, which they added to their own drug based requirements. According to the Ministry, of the total requirements of about 100 intermediates required for dyestuffs, drugs, plastics and explosives, the West German proposal covered over 60 items while the Soviet one contained 17. The note did not specify whether the number of items in each case represented products at the same stage of the production cycle, for the Soviet offer could have been for products at an upstream stage, potentially catering to many more products after processing.⁵⁰ The Ministry note stated that the West German plant was larger and would benefit from economies of scale. It stated, also without documentary evidence, that the choice in favour of the German project was based on their "undoubted technical leadership."

Nehru, on receiving the letter and note merely stated that he did not accept preemption of a political consideration by the Cabinet subcommittee by the administrative stratagem of presenting it with the conclusions of an administrative committee. The issue was to be discussed in its entirety and not to be subject to the vagaries of decisions taken piecemeal. The factors to be taken into account undoubtedly included the financial aspect and the technological, but also royalties, control on prices and future developments and

⁵⁰ It is interesting that a fuller note prepared by the Ministry of Industry made precisely these distinctions, referring to "primary," "lower," "higher," "complex," and "penultimate," intermediates. In fact, a table in the note which shows the British and Italian offers including 204 and 300 intermediates mentions that these large numbers are due to the inclusion of "higher intermediates." Even this note did not, however, evaluate the German and Soviet proposals in these terms. Ministry of Commerce and Industry *Note for the Economic Committee of the Cabinet: Development of the drugs and intermediates industries — utilization of Russian aid* undated enclosed with the Ministry's *Note for the Cabinet: Development of the Drugs and intermediates industries — utilization of Russian Aid*, 18 January 1958 in JN papers file 587, Pp. 92-114.

the task involved the evaluation of all these variables and their integrated consideration with respect to the drug industry.⁵¹

The Economic Committee of the Cabinet considered the Industry Ministry note in substantially the same form as the version sent to Nehru.⁵² It concluded that the note (despite its 6 page length together with another 6 page annexure) was inadequate on the main points concerning the proposal. The Ministry was asked to submit a revised paper containing full data with comparable data for the West German and Soviet proposals for drug and dye intermediates with respect to financial aspects, foreign exchange requirements, credit terms and all other relevant factors.⁵³ The Cabinet was, then, decisively reformulating the issue: the Industry Ministry had held that the question of the intermediates' plant was settled in favour of Bayer. Consequently, it wished to preclude any direct comparison of the relative merits of the Soviet proposal by defining possible Soviet participation as confined to the Antibiotics and Synthetic drugs plants.

The question then moved to the Planning Commission in late October. Although Nehru was unable to attend, in a letter to the Commission he made his misgivings clear.⁵⁴ He considered the viewpoint of Indian technical specialists—that Bayer's technology was beyond comparison—questionable in the absence of any specific data. The Soviet Union had made considerable progress in the drug industry as in several other fields, quite apart from the possibility that other Western firms might be comparable in their offers when the question was broadened to include costs, foreign exchange, royalties and so on. He was concerned by a one-sidedness. No further details were sought about the Soviet proposal after its submission, unlike in the case of Bayer. Even here Nehru noted that the Industry Ministry was now admitting that the Bayer proposal was a rough projection, emphasizing the impression that the Ministry was depending entirely on Bayer's reputation irrespective of the merits of this particular case. The Ministry also provided data showing that Bayer's engineering and royalty fees were high, based on their proprietary technology and secret processes. Bayer was also charging 7½% interest, a full

⁵¹ Letter No 1859-PMH/57, 24 September 1957 from Jawaharlal Nehru to Manubhai Shah, JN papers file 556, p. 322.

⁵² Ministry of Commerce and Industry Secret Note for the Economic Committee of the Cabinet *Utilisation of Russian aid for the development of the drugs industry*, 23 September 1957 together with confidential note *Drug Industry* by the Chief Industrial Advisor, Ministry of Commerce and Industry, 10 September 1957 in JN papers file 557, Pp. 173–87.

⁵³ Meeting of the Economic Committee of the Cabinet held immediately after the Cabinet Meeting called for at 10 am on Tuesday the 1st October 1957, Case No ECC-20/7/57, *Utilisation of Russian Aid for the Development of the Drugs Industry*, JN papers file 568, p. 97.

⁵⁴ Confidential letter No 2025-PMH/57, 30 October 1957 from Jawaharlal Nehru to T.T. Krishnamachari, Deputy Chairperson Planning Commission, JN papers file 563, Pp. 182–86.

5% more than the Soviet Union. Finally, granting Bayer equity to the full value of the fees and know-how, a practice seen in another case as unwise, also caused Nehru concern. He suggested that permission could be given to the Industry Ministry to proceed with its recommendations on the earlier Soviet aid offer of 500 million roubles for the heavy engineering industry, while the drugs and dyes intermediates project which would require the collection of much more data, should be postponed.

By mid November both the West German and the Soviet authorities were showing impatience with the slow pace of decision-making in India.⁵⁵ At the meeting of the Planning Commission from which Nehru had been absent, there had been a divide between J.C. Ghosh and P.C. Mahalanobis of the Planning Commission, on the one hand, and Morarji Desai, Minister for Commerce and Industry, on the other. Desai held to the earlier Industry Ministry position, that while Soviet aid was welcome for antibiotic and synthetic drug plants, the West German intermediates proposal would cover the entire requirements for the drugs, dyes and other industries. Not only was it technologically superior but also of greater versatility. Ghosh disputed such a categorical conclusion based on the data provided. It was finally agreed that a meeting would be held between Ghosh, Mahalanobis, the Chief Industrial Advisor and the Minister who, after examining all the data available would decide on the issues. The parameters for decision were specified as the economics, technical soundness and the financial terms of the competing offers.⁵⁶

At this meeting, perhaps significantly held at J.C. Ghosh's home on a normal working day, there was a startling denouement. Mahalanobis and Ghosh accepted the Bayer proposal for a plant catering to the entire demand of the dye and related industries, and for a certain amount required by the drug industry. The Soviet offer was to be confined to the antibiotics and synthetic drugs plant along with the other, less critical projects that had been suggested.⁵⁷ The only technological concession that Ghosh and Mahalanobis were able to extract was that the Bayer plant was now explicitly specified as producing

⁵⁵ Nehru asked Morarji Desai, who had brought to his notice that the German Team could not be kept waiting indefinitely that Mahalanobis should be informed that the matter should quickly be settled in his letter 15 November 1957 JN papers file 568 p. 270. A little later he informed the Indian Ambassador in Moscow that the Government would soon be clear in its own mind, after which it would approach the Soviet Government formally. Note to Foreign Secretary, Ministry of External Affairs 27 November 1957 JN papers file 572 p.188

⁵⁶ *Summary record of the meeting of the Planning Commission at 11 am on Thursday October 31, 1957 to consider (a) Foundry Forge Project and (b) Development of the Drugs and Intermediates Industries- Utilisation of Russian Aid* enclosed with Planning Commission note 28 November 1957 JN papers file 573 pp 2-3

⁵⁷ *Record Note of discussion held in Dr J.C. Ghosh's residence on 27th November at 10.30 am* enclosed with Planning Commission note JN papers file 573, p. 1.

basic organic chemicals and primary intermediates, thus incorporating technologies apparently more fundamental in the chemical engineering chain.⁵⁸ The question of the rest of the requirements for drug intermediates was left to be decided after consultation with the Soviet authorities.

Whatever may have been the reasons for J.C. Ghosh dropping his long standing objection to favouring the West German project over the Soviet, at the conclusive Planning Commission meeting a few days later, he voiced the opinion that of all the manufacturers of intermediates in the *Western* world, Bayer was the leader. That comparisons of technology available from this world and the socialist world could or would not be addressed was made clear in this meeting: on a query from Nehru that it would be advisable to examine data relating to the relative cost of production between the two technologies on offer, the Prime Minister of India was informed by a relatively junior official that it was not possible to undertake this exercise in an intermediates plant manufacturing a large number of products.⁵⁹

9. The Denouement: Private participation in Pharmaceuticals assured, Soviet Technology in Support

Bringing a more than two year controversy to a close, the Cabinet approved the proposal to initiate negotiations with the Soviet Union for the five projects to manufacture antibiotics, synthetic drugs, endocrines, alkaloids, and medical instruments.⁶⁰ These were

⁵⁸ This conclusion is based on the juxtaposition of the words basic organic chemicals/primary intermediates while in earlier documents the word intermediates is used without qualification. There is no other evidence available to support this contention.

⁵⁹ This statement was apparently not challenged by Ghosh. As his sudden acquiescence cannot be ascribed to new details of the relative merits of the technologies or even of the financial terms offered, it can only be concluded that other, more general factors, were in his mind. Planning Commission *Secret Summary Record of the meeting held at 4 pm on Monday, the 2nd December, 1957 to consider the schemes to be proposed against the Russian Aid of 100 million roubles for Drug Industry*, JN papers file 574, Pp. 215–16.

Sokhey, in a number of papers has provided indications of the background to this closure but they are not adequate to reach scientific conclusions. S.S. Sokhey, "Self –Sufficiency in Modern Medicines – An Imperative Need," *Economic Weekly*, 10 Annual Number (January 1958), Pp. 189–95; *The Indian Drug Industry and its Future* (New Delhi, 1959); "Manufacture of Modern Drugs forging Ahead: But menaced by Patent Laws," *Economic Weekly*, 13 Annual Number (February 1962), Pp. 235–241; "Patent Bill retains Drug Patents: National Interest Demands their Abrogation," *Economic Weekly*, 17–18 December 1965, Pp. 184-91854; see also, S.V. Parulekar, *India's State Drug Industry* (New Delhi, nd).

⁶⁰ Ministry of Commerce and Industry *Note for the Economic Committee of the Cabinet: Development of the Drugs and Intermediates Industries – Utilization of Russian Aid*, undated enclosed with the

to form the basis of the new corporation in the public sector, Indian Drugs and Pharmaceuticals (IDPL). It also approved the Bayer proposal to produce intermediates, also in a new public sector corporation, Hindustan Organic Chemicals (HOC). The difference between these projects was stark.⁶¹ While IDPL experienced a painful evolution, largely caused by the need for experimentation to negotiate around India's existing patent regime, it grew by the early 1970s into not only a major supplier of antibiotics, but also the major support for the private sector pharmaceutical companies that were so critical in providing low cost drugs to the Indian people.⁶² On the contrary, the collaboration with Bayer collapsed within a few years. Although HOC did finally achieve production in the early 1970s, this was largely based on indigenous technology developed in the National Chemical Laboratories. The delayed entry of Hindustan Organic Chemicals prevented the timely development of the intermediates industry and by the 1970s the intermediates market had been filled by transnational subsidiaries along with certain capacities created in IDPL.⁶³

Ministry's Note for the Cabinet: *Development of the Drugs and Intermediates Industries — Utilization of Russian Aid*, 18 January 1958, JN papers file 587, Pp. 92–114; Meeting of the Cabinet held on Friday, the 24th January 1958 at 10 am, Case No 15/4/58, *Development of the Drugs and Intermediates Industry — Utilisation of Russian Aid*, JN papers file 588, p. 25.

⁶¹ Hindustan Organic Chemicals was incorporated in December 1960, the agreement with Bayer for technical and financial participation (30% equity) being signed in August 1960 (2½ years after cabinet approval), with basic raw materials expected to be supplied from the by-products of the steel plants. However, by 1962–63 it was reported that "...unexpected difficulties have...arisen in regard to availability of foreign credit to finance foreign supplies. The revision of the project to tide over these difficulties and to improve its economic viability in the light of the latest technological development in this field has been taken up by the Government..." The agreement with Bayer was terminated in April 1964. Government of India, *Annual Report on the Working of Industrial and Commercial Undertakings of Central Government for the year 1961–62* (New Delhi, 1963), p.11; for 1962–63 (New Delhi, 1964), p. 15; for 1963–64 (New Delhi, 1965), p. 23.

⁶² Lok Sabha Secretariat, Committee on Public Undertakings (1968–69), Fourth Lok Sabha, *Forty Sixth Report Indian Drugs and Pharmaceuticals Limited* (Ministry of Chemicals and Mines and Metals) Department of Chemicals (New Delhi, 1969). The Committee noted that the collaboration had to bypass existing patents and evolve new procedures. Although the Soviet Advisors initially cooperated in overcoming difficulties, they became "reticent" when their responsibility to ensure success was pointed out. The Committee recognized the need to have a working arrangement to prevent a breakdown in cooperation. Paragraphs 4.6 and 7.14.

⁶³ Gupta, A., "Devaluation and the Pharmaceutical Industry: Prospects of Import Substitution," *Economic and Political Weekly*, 1, 10 September 1966, Pp. 156–158.

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