

**THE HOUSE OF TATA AND HIGHER EDUCATION:
VISION, PROGRAMMES AND ACHIEVEMENTS,
1892-1950**

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CERTIFICATE

Certified that the dissertation entitled, **“THE HOUSE OF TATA AND HIGHER EDUCATION: VISION, PROGRAMMES AND ACHIEVEMENTS, 1892-1950”** submitted by **MRITUNJAY KUMAR**, in partial fulfilment of the award of the degree of **Master of Philosophy**, of this university is his original work. This dissertation has not been submitted for any other degree of this or any other university.

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ABBREVIATIONS

A.I.C.C.	-	All India Congress Committee
CSL	-	Central Secretariat Library
DON	-	Donation
DTT	-	Dorabji Tata Trust
IACS	-	Indian Association for Cultivation of Science
ICHR	-	Indian Council for Historical Research
IESHR	-	Indian Economic and Social History Review
IISc	-	Indian Institute of Science
INC	-	Indian National Congress
JTI	-	Jamshedpur Technical Institute
MIS	-	Miscellaneous
MIS	-	Miscellaneous
NAI	-	National Archives of India
NMML	-	Nehru Memorial Museum and Library
OFS	-	Organising for Science
OUP	-	Oxford University Press
PHIL	-	Philosophy
RTT	-	Ratanji Tata Trust
SAS	-	School of Archival Studies
TCA	-	Tata Central Archives
TIFR	-	Tata Institute of Fundamental Research
TISCO	-	Tata Iron and Steel Company
TISS	-	Tata Institute of Social Science
TMH	-	Tata McGraw Hill
TOI	-	Times of India
U.N.	-	United Nations
UNESCO	-	United Nations Educational, Scientific and Cultural Organization

PREFACE

The present work seeks to explore the efforts of the House of Tata, in promoting the cause of the higher education, in the last decade of the nineteenth and the first half of the twentieth century. The objective is to see the vision of the pioneer J.N. Tata, and how far the House could realise his dreams. This will be done in the background of the colonial educational policies.

The House of Tata, as the story goes, made its first mark in higher education in 1892, when it introduced its "Scholarship Scheme", to educate the select few in different universities of the world. The House, however, found the scheme insufficient, to pursue its broader objective of industrial India. It required the promotion of technical, scientific and industrial education at greater level. The university scheme, a concept for the establishment of technical university, was primarily meant to address the same issue. After the demise of J.N. Tata, sons Ratan and Dorab, helped the House in fulfilling as well as broadening the vision of the founder in different ways. As a result, a number of institutions of higher studies, i.e. IISc, JTI, TISS, TIFR and several others, came up to achieve the same. Apart from these institutes, the House also provided aids and scholarships, to several other institutions in India and abroad, to pursue the same. My endeavour in this study, is to see as to how far these establishments, helped the House to achieve its vision in this period.

A few words as why the period 1892-1950 was chosen. The year 1892, is important, as the House launched its scholarship in the same year, the first ever scheme to support the cause of higher education in India by the House. The years following this, saw the establishment of a number of institutes, which have already been referred. The year 1950 (i.e. the closing date) is important in the sense that the House and its establishments like TIFR and TISS achieved stability. For instance, in 1950 TIFR has set a new standard in the field of scientific publications. It started a series of international monographs on mathematics and physics and published a facsimile edition of Ramanujan's originals in mathematics.¹ In the same year, it also organised the International Conference on Elementary Particles organised and supported by International Union of Pure and Applied Physics, UNESCO. Similarly, TISS got the international recognition in the same year, for solving the refugee problem of the post-partition debacle by the United Nations: Thus, the year 1950 brought few cheerful moments, for which the House fought for the last 60 years or so.

As regards the literature available on the subject. Scholars like Kumar,² Raina & Jain³ and Lala⁴, give the general description

¹ DTT/PHIL/MIS/3, pp. 4-7.

² Deepak Kumar, *Science and the Raj 1857-1905*, Oxford University Press, New Delhi, 1995, pp. 202-205.

³ Dhruv Raina and Ashok Jain, Big Science and the University in India, Chapter 44, John Krige and Dominique Pestre (ed.) *Science in the Twentieth Century*, Harwood Academic Publishers, U.K., 1997, pp. 862-863.

⁴ R.M. Lala; *The Creation of Wealth*, IBH Publishers Pvt. Ltd., Bombay, 1981, pp. 150-161.

of the House and its educational plan in the period. On critical issues regarding technical education and the perceptions of educated Indians, most notable work is that of S. Irfan Habib and Dhruv Raina⁵ Sebaly⁶ and Harris⁷, in their writings, have given preference to some important issues. For instance, Sebaly talks specifically of the period 1900-1920 and discusses the university scheme and JTI. On the contrary, Harris talks more about the vision of J.N. Tata in this period. However, Subbarayappa⁸ and his writing is important in the sense that he has tried to present a complete story of IISc since its establishment. Though these writings are valuable and gives enough insight on the topic, yet, none of these give a complete picture of the House in this regard. This remains a shortcoming with the literature, so far available on this topic. The opinion of the House and its endeavours on education, cannot be studied in bits and pieces; we requires a complete and holistic picture of its educational plan. In this study, I have tried to cover the entire period. It is based primarily on the

⁵ Dhruv Raina and S. Irfan Habib; Bhadraklok perceptions of science, technology and cultural nationalism, *The Indian Economic and Social History Review*, 32, 1, Sage, New Delhi, 1995, pp.95-117 and technical content and social context: locating technical institute. The first two decades in the History of Kala Bhawan, Baroda (1890-1910), Patrick Petitjean (ed.), *Sciences and Empires*, Kluwer Publication, Netherlands, 1992, pp.121-136.

⁶ Sebaly, Kim P.; The Tata and University Reform in India 1898-1914, *History of Education*, 1985, vol. 14, No. 2, pp. 117-136 and Tata Steel and Higher Technical Education in India: The Padshah Plan 1916-21, *History of Education*, 1988, Vol. 17, No.4, pp. 309-320.

⁷ F.R. Harris, *Jamsetji Nusserwanji Tata: A Chronical of His Life*, Blockie and Son (India) Limited, Bombay, 1925.

⁸ B.V. Subbarayappa, *In Pursuit of Excellence: A History of the Indian Institute of Science*, TMH Publishing Company Limited, New Delhi.

Archival Collection of NAI⁹ and TCA.¹⁰ This includes Home/Education – A Proceedings and the private papers of JN, Ratan, Dorab and JRD, apart from the Trust papers of the individual trusts of the House.

Keeping these and other such related issues in mind, as discussed above, my attempt in this study is to highlight the role of the House in shaping the destiny of technical, scientific and industrial education in India. The first chapter discusses as to why there is a need to address the issue in this period. This I have tried by reviewing the policies of INC, the colonial state, institutes like the Asiatic Society as well as IACS of Mahendra Lal Sircar. The second chapter basically chronicles the efforts of JN Tata to establish IISc, and his vision of technical, scientific and industrial education in India. The third chapter, however, outlines the events and developments leading to the establishment of IISc, JTI, TIFR and also the course of events in these institutes. The fourth chapter is an attempt to address the community development and social science concern of the House in this period. The programmes and policies of different Trusts, establishment of Cancer Hospital in Bombay and also of the TISS, are the subjects broadly covered in it. The fifth chapter, i.e. conclusion, is an attempt to summarise and assess how far the House succeeded in its endeavours during this period.

⁹ NAI, Stands for National Archives of India, New Delhi.

¹⁰ TCA, Denotes Tata Central Archives, Pune.

CHAPTER – I

INTRODUCTION

Education in India has always received aid from the society and the state. This aid has assumed various forms in different periods of the Indian History. In ancient India when monetary consideration in education was tabooed, it was given as alms, gifts, perquisites and donation of things and land for educational establishment. In the medieval period, money, building and objects of necessity were donated. Education was then closely connected with religion and to help education was considered a part of religious duty. However, during these periods the state, though always, willing to help the cause of education, never considered it a part of its duty to fix a regular subvention for education. It was in the British period that the legislative sanction to spend on education was given to the government and grants began to be allocated to educational institutions. But, this grant and its allocation to these educational institutions had not been transparent. The House of Tata ventured into the arena of higher education in 1892, by introducing its famous scholarship scheme. The great visionary, J.N. Tata, started the scheme primarily to address the needs of the industries in India. But, in doing so, he never narrowed his framework to the industries only.

In the period of eighties during the 19th century, the Indian Civil Service was manned entirely by the British and the elite of the other professional services also came from the U.K. The patriot in Jamsetji Tata fretted at this, 'for he knew that it was not lack of talent, but lack of opportunities for our young men who was responsible for this state of affairs. The needy and talented could not afford to go abroad to study/for higher technical studies/professional studies, nor appear for competitive examinations held only in England'. This situation transpired in J.N. Tata to start his famous scholarship scheme. However, this was not all, and he and other generations of the House, later created many more milestones in this sector, which is precisely the subject matter of this study.

Moreover, during this period and before that there were other agencies active in this arena. It is important at this stage, to know, as to what these agencies were doing? For instance, at the political level, the colonial state brought about certain legislations in this regard. The Indian National Congress also raised serious concern, in its different sessions since 1887. It asked the government to promote the technical and industrial education, based upon the Strachey and other Famine Commission reports¹. Organisations like the Asiatic Society of Bengal and Mahendralal Sircar's Indian Association for Cultivation of Science (IACS) also made independent

¹ Strachy in its Famine Commission Report asked the Govt. of India to promote the technical and scientific education in India.

efforts in different periods. An understanding of all these is important, as it may provide an answer to the questions as to why Tata (House of Tata) ventured into this area or lobbied since 1890s, to do so.

Indian Industries and the Colonial State

Among the other factors responsible for the decline of Indian industries during the 19th century, a major factor was the unhelpful and even anti-Indian, policies pursued by the alien government and the lack of a favourable intellectual and social climate. In the early years, the East India Company was generally indifferent, but not always hostile, to local industries. In specific cases, it even encouraged and helped their growth in order to sustain its own trade with England. But, in 1813, its monopoly of trade with India ended, and the profit-seeking English merchants rushed to exploit the Indian markets. The situation, however, had changed radically by the time the 'home government' took over the direct administration of this country after 1857. It was no longer necessary to hold India by force or by political power. Once the Lancashire industry was able to attain enough competitive strength and the Indian industries were sapped of their vitality, tariffs were abolished. The *laissez faire* policy of the 'home government' was extended to India and in the following years the unrestricted flow of factory goods from England completely swamped the Indian economy. The economic ideas and the policy of *Laissez faire*, which

proved so healthy and progressive for 19th century England, were totally disastrous for the then India. While they released unlimited individual initiative and ushered in the industrial revolution in the former country, they doomed all chances of survival for India's industries.²

The application of the laissez faire policy meant that the predominance of agriculture would be maintained, that industries competing with their British counterpart (e.g. the textile industry) would be discouraged, and that the government expenditure and functions would be kept to the minimum. The government's responsibility even in respect of technical education, commercial intelligence, survey and exploration of mineral resources, etc. was tardy and reluctantly recognised and indifferently discharged. The railway rates policy was deliberately oriented in favour of export and import trade and worked against the growth of local industries. Moreover, the early rail routes sought to connect big cities of the interior with the big ports of Bombay, Calcutta and Madras, without a complex of feeder lines. No co-ordinated railway policy was possible because of the multiple ownership and management of the railways. On all accounts, therefore, the railways contributed little towards the revival or the development of industries. Free trade

² M. R. Kulkarni, *The Transition to Modern Industry*, National Book Trust of India, 1998, pp. 9-10.

together with the railway policies sounded the death knell of Indian enterprise.³

The policies pursued and the systematic efforts made by the 'home government' to protect the Lancashire cotton textile industry against Indian competition form a tragic chapter in the history of the political and economic relations between India and England. As one authority on the subject has observed, one of the principal reasons for England's assumption and retention of political power over India was to provide a market for Lancashire cloth. And the competition in the cotton textile trade, the new power industry as against the old hand trade, and the efficient English mills as opposed to the younger mills of India were subject of keen controversy for several generations among the articulate Indians. It could be enough to state that it was not till the Swadeshi movement gained a nation-wide momentum and the First World War built up pressure that there was a distinct reversal of the government policies in favour of local manufacturing – traditional and modern. However, enough pressure had been generated by the nationalists leading to the appointment of the First Industrial Commission.

The decline of Indian industries, the growing imports of British manufacturers and the exports of raw produce from India, led inevitably to the impoverishment of the manufacturing classes in all parts of the country and drove a growing proportion of the population to depend more and more upon the land. Out of a total

³ Ibid., p. 10.

record export of 58¾ millions in 1878-79, only 6½ percent, represented the value of what may be called manufactured goods, 93 ½ percent, being mere raw produce. In 1880, the imports of manufactured goods were valued at £ 51,397,561. By the combined operation of these two causes, the country was reduced to an economic condition which exposed it to the aggravated evils of frequent famines. Sir Horace Plunkett, pointed out in his valuable report of the Recess Committee of 1896 that similar causes had led to an earlier period to similar results in England.

In India, the statistics shows that the cases of Famine had been on rise, in the last quarter of nineteenth century. Mr. Digby says that there were eighteen cases of famines between 1876 to 1900. The total mortality in the last half of the nineteenth century was 28,825,000. Writing in 1901, he said:

“Stated roughly, Famines and Scarcities have been four times as numerous during the last thirty years of the nineteenth century as they were one hundred years earlier, and four times more widespread”.⁴

After the disastrous famine of 1877-76, the Government was pleased to appoint an Indian Famine Commission to enquire “how far it is possible for Government by its action, to diminish the severity of famines, or to place the people in a better condition for enduring them”. In their report the commission said that the over-

⁴ *'The Speeches & Writing of Pandit Madan Mohan Malaviya,'* G.A. Nateson and Company, Madras, pp. 397-98.

dependence of Indian population on agriculture, scarcity of rain, practically non-existence of industries and also the non-availability of any sort of technical know how had made the situation adverse in the country. It urged the government to encourage local industries and also start industries as source of employment. And for all this technical and industrial education is a must.⁵

Indian National Congress

This valuable report was published in 1880, but it seems that little heed was paid to its most important recommendations. Little was done to encourage indigenous industries; less to promote technical education. In the meantime the Indian National Congress, which was organised to focus Indian public opinion and to represent the want and wishes of the Indian public to the Government came into existence in 1885. The Congress's concern for science and scientific education started in two basic contexts. The First was, in response to the immediate exigencies of life in the country, such as the necessity of getting rid of, or, at least coping with the situation created by poverty, disease and disasters like flood and famine; the second was, in response to the wider context of colonial exploitation and administrative control. For example, whenever famines occurred, crops failed and epidemic broke out, the Congress showed concern for improvement in such areas as

⁵ Ibid., pp. 398-402.

industries, agriculture and healthcare.⁶ Similarly, in matters of official discrimination in appointments based on race and loyalty, governmental indifference to technical education or government's attempts to control and restrict higher education, the Congress reacted.⁷

The response on the part of the Congress was the result of the understanding of its leadership of the true native and evil consequences of British rule in India. Even in the early years of the Congress, its members were appreciably aware of developments abroad, thanks to western education, the press and India's imperial connections, the developments in the fields of industries, agriculture, science and technology in countries like Great Britain, Japan, Germany, USA and Russia encouraged the interest of Congress in science and allied matter. As opposed to this congress now was in the position to understand that under 'colonialism, the subject had been getting neglected.⁸ The British had taken some interest in the socio-economic development of India until 1857. This interest, however, became lukewarm and cautious, after the Revolt of 1857. The space created by the state, had been taken up by the indigenous organisations like Indian League, IACS of Mahendralal Sircar etc.

⁶ J.N. Sinha, *Science & the Indian National Congress*, p. 161.

⁷ INC. Resol. IX, 1989, Sinha, p. 161.

⁸ Zaidi and Zaidi, *The Encyclopaedia of Indian National Congress*, Vol. IV, pp. 159, Sinha, pp. 161-62.

Thus, with the understanding of the ground reality and also with the release of some of the important Famine Commission's Report, the first and the foremost area that attracted the attention of the Congress were industrial progress and technical education. At its third session at Madras in 1887, it passed the following resolution:

“That having regard to the poverty of the people, it is desirable that the Government be moved to elaborate a system of technical education, suitable to the condition of the country, to encourage indigenous manufactures by a more strict observance of the orders, already existing, in regard to utilising such manufactures for state purposes, and to employ more extensively than at present, the skill and talents of the people of the country.”⁹

At its next session at Allahabad, in 1888, the Congress urged the appointment of a mixed commission to enquire into the industrial condition of the country as a preliminary to the introduction of a general system of technical education. It reiterated this request in 1891, 1892 and 1893. In 1894, it affirmed in the most emphatic manner the importance of increasing public expenditure on all branches of education, and the expediency of establishing technical schools and colleges. It repeated the same request in 1895. In 1896 when a famine had broken out in a more or less acute form throughout India, it again urged that “the true remedy against the recurrence of famine lies in the adoption of a

⁹ INC Resol. VII, 1887.

policy which would enforce economy, husband the resources of the state, foster the development of indigenous and local arts and industries which have practically been extinguished, and help forward the introduction of modern art and industries.¹⁰

By 1900, the Congress became so concerned about industrial problems and technical education that it decided to devote, "at least half a day at each annual session to these problems."¹¹ Highlighting the importance of minerals, in the 17th session of Indian National Congress, Suresh Chandra Ray talked about the developments in the mining industry abroad. He appealed to the wealthy sections of Indian society to raise the required funds for this, which, he hoped, would be substantially supplemented by the Government. The session also passed a resolution demanding the establishment of mining schools and colleges in the country. The same demand got repeated even in the next session. With this effect the govt. opened Indian School of Mines at Dhanbad.¹²

Congress, since its inception, favoured higher education which also included science and technical education. At the 1892 session of the Congress at Allahabad, K.V. Joshi advised the government not to sacrifice the claims of higher education.¹³ The pace and the intensity of the demand increased in the later years. D.E. Wacha, reflecting upon the significance of science and

¹⁰ INC. Resol. X-XV.

¹¹ INC. Resln. XII, 1900.

¹² Zaidi and Zaidi, *The Encyclopedia of Indian National Congress*, Vol. IV, 159.

¹³ *Ibid.*, Vol. II, p. 169.

technical education for industries outlined the following in his presidential address of 1901:

“It is idle to talk of mere small industry in carpentry and brick-making and so forth. If there is to be an industrial revival of a practical character which shall change the entire surface of this country, you will first have to lay the foundation of teaching in the allied sciences. You cannot have the cart before the house. Higher Education must precede industrial development.¹⁴

The sessions of the Congress around this time, as it is evident from its resolutions, spoke for primary education, but it did not want the claims of higher education to be subordinated to those of primary education. From the very beginning itself, Congress tried to get their demands concerning education, science, industry, etc. fulfilled and grievances redressed through British official measures. But since Indians did not have any say in the making of policy and its execution, nothing favourable emerged. This irritated a large majority of Congressmen and later they demanded the Indianization of technical services and asked for more chances for Indians in policy-making. It also appealed for greater utilisation of indigenous talent in scientific and technical services as well as teaching and research.¹⁵ Almost the same had been the case of medical and other professional services. This issue formed the core of the

¹⁴ Ibid., Vol. IV, p. 251.

¹⁵ Pattabhi Sitaramayya, *The History of the Indian National Congress*, Delhi 1962, p. 42. Also J.N. Sinha, p. 164. All INC resolutions since 1893 till 1920, more or less laid stress on the above issue.

Congress policy and programmes in these years. Their non-redressal had caused serious concern among the congressmen as well as the natives of India. Almost similar had been the concern of Madan Mohan Malaviya, when he was working for the Indian Industrial Commission in 1916.¹⁶

With a view to popularising modern industries, science and technology, the Congress organised an industrial exhibition at its annual session at Calcutta in 1901. Such exhibitions, however, soon became a regular feature of congress sessions. With the help of Indian Industrialists, it organised from 1905 an Annual Industrial Conference.¹⁷ Meanwhile under the nationalist influence, an Association for the Advancement of Scientific and Industrial Education of Indians was founded in 1904. It enjoyed the sympathy and support of Congress. The organisation of these associations and forums was perhaps the earliest efforts at providing the organisational apparatus required for the realisation of the policy of the Congress towards science and technology.¹⁸

The Congress could not demand any radical change – whether in the sphere of administration and economy, or on science education and research. At best, they could only make requests for some reform within the existing order. That is the reason, why, in

¹⁶ 'The Speeches and Writings of Pt. Madan Mohan Malaviya: A Note on the Report of The Indian Industrial Commission,' G.A. Nelson and Company, Madras, p. 304.

¹⁷ Report of the Indian Industrial Commission, pp. 1916-18, Calcutta, 1918, pp. 308, J.N. Sinha, pp. 164-165.

¹⁸ J.N. Sinha, Science and the Indian National Congress, Deepak Kumar (ed.) *Science & Empire: Essays in Indian Content (1700-1947)*, 1991, p. 165.

politics as well as in education utilisation and management of science, Indian National Congress started its activities on a 'moderate' note. This attitude of the congress on the question of science and technology is important, as it represented the voice of the native Indians. The Congress addressed the failure of the Government in tackling the issue of Famine, also attacked the Government and its non-commitment on the issues pertaining to industry and its backwardness. However, it is almost an accepted fact that despite the resolution and meetings, Congress could not achieve anything substantial on this front, because of the stubborn attitude of the Government. Thus some space had been created for the other agencies to operate in the arena.

However, besides the Indian National Congress and the colonial state, there were associations and organisations active in higher education and research. It is also important to look into their efforts in this regard.

The Asiatic Society of Bengal

On 15th January 1784, William Jones along with thirty other officers of the East India Company inaugurated the Asiatic Society in the rooms of the Supreme Court of Calcutta. In his inaugural address he stated the objective of the society in broad terms. He invited the scholars to investigate anything, which would be rare. This may include, mathematics, trigonometry, tradition, religion, medicine, anything and everything. The Society was closely

modelled on the hebdomadal gathering of the Royal Society of London, a body which for most part came from the leisured classes that pursued science for education and entertainment. It provided full freedom for discussion, an avenue for publication in Asiatic Researches. The field activities of the Society led to the establishment of the Great Surveys.¹⁹

Throughout nineteenth century, a host of organisations broke off from the Asiatic Society to lead an independent existence of their own. Some of the important organisations, included the Royal Botanical Gardens, the Indian Museum, the Zoological Gardens, the Survey of India, the Linguistic Survey, the Medical College of Bengal, the school of tropical medicine, the Geological and Anthropological Survey of India and several others, based on this line. With the formation of each of these organisations there was a corresponding decentralization of activity. However, the genesis of the society and its social distance from the scientific centres of Europe had rendered it a unique position as a group of amateurs in the age of the specialist professionals. In the following years, the various bodies it had created slowly and gradually usurped its functions and the society found itself desiccated, irrelevant and dying. This change and shift in the character of the society had been explained by famous scientist Meghnad Saha in the following words, in one of his Presidential address to the society.

¹⁹ Shiv Visvanathan, *Organising for Science*, OUP, Delhi, 1985, pp. 10-13.

“It appears to me that the cancer of the Royal Asiatic Society of Bengal has been somewhat like its great contemporary, the Great Banyan tree of the Sibpur Botanical Gardens. Like that king of trees, it has thrown all around itself aerial roots which have developed into independent self-contained institutions having little contact with the mother body. The original society is now reduced to a mere trunk and unless we can infuse it with new life giving activity, it may become like the trunk of the old banyan tree”.²⁰

Thus, by 1900, the Society became a coterie of British gentlemen having hardly anything to do with the vision of William Jones, its mentor and founder. It no longer remained an organisation to promote the true research. Therefore, there was an urgent need to trace an alternative in its place. Around the same time, apart from organisations, there were few individuals looking for some breakthrough in this regard. One such individual was Mahendralal Sircar. His organisation Indian Association for the Cultivation of Science had been an indigenous effort in promoting pure science.

Indian Association for the Cultivation of Science

The Indian Association for the cultivation of Science (hereafter IACS) was formally established by Mahendralal Sircar on 20 July 1876. He stated the objectives of the Association in the following words:

²⁰ Meghnad Saha paper, p. XVI, also quoted in Shiv Visvanathan, *Organising for Science*, p. 14.

“It was to enable the natives of India to cultivate science in all its departments with a view to the advancement of original research and (as it will necessarily follow) with a view to its varied application to the arts and comforts of life”.²¹

Maintaining the above line, association tried to focus upon the Indian Science as against the western interest of the Asiatic Society of Bengal. Sircar also favoured Science over technology. He clinched his argument by justifying the priority of science over technology even on purely nationalist ground. He argued that science had revolutionised the relations between nations. In this new struggle for the survival of the fittest, bitterer than even Darwin visualised, an unscientific culture was an obsolescent one. He held ‘that the struggle for existence is becoming harder and harder and competition is necessarily becoming keener. So that there is danger of losing not only prestige but the very chance of existence, unless pace is kept with the progress made.’²² Sircar cited William Crooke’s speech about the Malthusian Spectre of starvation, of the wheat producing capacity of the world getting exhausted compared to the rate of increase of population. Crooke pointed a way out of the colossal dilemma, ‘it is the chemist who must come to the rescue of threatened communities. It is through the laboratory that starvation may be eventually turned to plenty’.²³

²¹ Sircar, IACS Annual Report 1876, quoted in Shiv Visvanathan, *OFS*, p. 19.

²² IACS, Annual Report, p. 27, also quoted in Shiv Visvanathan, *OFS*, p. 25.

²³ *Ibid.*

Sircar went even beyond this. In this process, he also tried to examine the complexity of their relationships, the difficulty of transforming a scientific idea into a technologically and commercially feasible product. He argued that in the vast majority of cases, the application of science to industry or art is not a simple operation which can be performed either by the man of science or the man of practice, even by both together, but an extremely difficult operation in which success implies long patient and costly experiment. . .²⁴ He felt that the Science Association with its capital of Rs. 88,000 in securities could not undertake the entrepreneurial function, for pioneers who undertake such enterprise must generally be prepared to undergo heavy and sustained risk which the association could ill afford.²⁵

Thus, when compared to the Asiatic Society, IACS was really a sincere effort in research and higher education. The contribution of Mahendralal Sircar had no parallel, in the age in which he had started the Association. However, the paucity of funds and the lack of government support, created the unfavourable situation for the Association. The same had been true for Congress, though it raised the voice, but nothing beyond that was heard. On official front, the Famine Commission report recommended the government the need of technical and industrial education, but there was hardly any

²⁴ IACS, Annual Report 1891 Appendix, p. XXV, Shiv, *OFS*, p. 25.

²⁵ *Ibid.*

change in the policies of the government. These together, presented a grim picture of industrial India.

The House of Tata

The House of Tata under the dynamic leadership of J.N. Tata had been observing these developments closely. J.N. Tata now had both money as well as relevant experiences in the field of business and industry. He was also aware of the internal problems that India had been facing. He knew that, as an organisation Congress had certain limitations, so was the case of Mahendralal Sircar's IACS. He was sure of the fact that organisations and the individuals alone can't solve these problems. The gigantic task could only be achieved by bringing these diverse forces together under one platform. Around 1890s, he had made up his mind to put his entire business acumen and skill together, to achieve the same. His educational plans had not only to do with his patriotism rather also the wider business motives. As Padshah, one of the close associate in all his educational plans explained that J.N. Tata was of the belief that service to the needy could no more be made without brains, without investigation, without the selection of the right men, and without concentration on particular aspects, than the production of any other species of goods.²⁶

Like most men who have succeeded by their own efforts, Mr. Tata was sensible of the value of education, and he determined to

²⁶ Mr. Padshah to Lovat Fraser, 27 August 1912, Harris, the Institute of Science, Chapter VI, p. 113.

do all that he could in order to afford to others those advantages of which he himself had made the fullest use. He believed that much of the poverty around him was due to want of opportunity. For instance, he said that 'it is not that an average Indian does not like to use the opportunities of services like ICS, but they can't do owing to the costs involved in that exercise'. His own observations in Europe and America had convinced him that the application of Science to industry was one of India's greatest needs, and that Famine and pestilence would be mitigated, if not exorcised, by a wider knowledge of the causes of the evil. Even the Famine Commissions appointed in the period confirmed his belief.²⁷

His initial efforts for the promotion of Indian industries demanded the promotion of technical, scientific and industrial education. He was of the opinion that the Indian industries can't move in a proper direction, without the development of a core or mother industry. For him, iron and steel industry had been the core and mother industry, which in his world would guide the destiny of the industrial India in future. He made a move for such a project in 1880s, but had been denied permission by the colonial authorities. Around 1900, however, with the support of the Secretary of the State Lord George Hamilton, he had been given green signal in this regard. Again, he found the shortage of technical men in India to undertake such a project. He used in his initial years to import such technical men from Germany, U.S.A.

²⁷ Harris, pp. 113-114.

and other industrial nations, which used to incur huge financial losses.²⁸

He looked at education as a whole. His life coincided with a transitional period in which the Government of India had displayed considerable concern for the improvement of their educational system. Unfortunately, during this critical period, the Indian universities were purely examining bodies. The actual teaching was done in scattered schools and colleges, frequently some hundreds of miles distant from the titular university. With the introduction of western methods, it had been the hope of the government that 'such a spirit of emulation would be aroused among the higher classes, that it would slowly pervade the rest of their fellow – countrymen. The hope was unfulfilled and these committees remained a white washing body and never helped in cleaning the dirt hidden inside the educational system. Congress, Industrialists, several individuals and also the Reports of the several Famine Commission in the period asked for the changes and more importantly, the introduction of technical and industrial education in the period, which remained confined to the papers only.²⁹

Taking the clue from above, Tatas first introduced the scholarship scheme around 1892, to train few intelligent but financially poor, into the universities of Britain and other nations of the world. In doing so, they never imposed any condition.

²⁸ Home/Education, proceedings July-Dec. 1880-1887 and January to June 1890-99, NAI.

²⁹ Harris, pp. 114-115.

Experiences of the initial years, however, convinced the House that this scheme would not fulfil the need of the country. Thus, in consultation with B.J. Padshah finally prepared the 'university scheme', to uplift the technical and industrial education of India par with the international standard. Chapter II, III and IV will seek to examine the vision of J.N. Tata in technical, scientific, industrial and social science education in India and how far it achieved in the process.



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CHAPTER - II

TECHNICAL, SCIENTIFIC AND INDUSTRIAL EDUCATION: VISION OF J.N. TATA

One of the most distinguished family name in India is the name of Tata – a name synonymous with Indian industrial development, enlightened philanthropy, education and research. Mr. J.N. Tata, the founder of the House, was a man well advance of his days. A patriot, at core, he saw that India could never be truly independent as long as she remained dependent industrially on England, and he set himself to establish in India the industries basic to her industrial development. However, one of the great obstacles, in his ways in achieving the same, had been the shortage of technical manpower. His principal venture around 1890s i.e. the proposal of technical university, which later developed and established as the Indian Institute of Science, was primarily to address the same issue. This chapter seeks to examine the initial efforts of J.N. Tata in establishing the Institute and shaping and mapping the pathway of industrial India.

Jamsetji N. Tata (1839-1904) spent his life devising and supporting schemes for the development of India's resources. He was a 'pioneer' among Indian merchants and industrialists in cotton manufacturing, cargo shipping, hotel building, iron and steel production, hydro-electric power generation, and factory and town

planning.¹ The Indian Institute of Science, his principal venture in university reform, was incorporated five years after his death and would eventually become India's leading institution for scientific research.²

Though it is well-known that the Tata endowment of Bombay properties launched the Indian Institute of Science, his bitter struggle over its purpose with Lord Curzon's Government of India (1898-1904) and that of his two sons with Morris W. Travers, the Institute's first Director (1906-14) have been neglected. Interpretations of Curzon's role in the development of higher education in India have virtually ignored the Tata's effort to establish a post graduate institution for 'advanced research in science, arts and industries, and its relationship to Curzon's own proposals and actions for university reform. Likewise, accounts of the Institute's establishment have not explored the effect the first director's policies had on the Tata attempts to establish India's first teaching university.³

Several authors have highlighted the efforts of Lord Curzon in the past. Some of these include, (a) Lord Curzon brought a fresh and vigorous approach to the problem of university education in India⁴; (b) his thinking on university education was sound but far in

¹ Kim P. Sebaly, *The Tatas and University reform in India, 1898-1914*, *History of Education*, 1985, Vol. 14, No.2, p. 117.

² Ibid

³ Ibid

⁴ E. Ashby and M. Anderson, *Universities: British, Indian, African*, Cambridge, Mass, 1966, pp. 73-83.

advance of the times⁵; (c) also, his biographers have been no less respectful when appraising his contributions to University reform.⁶ These and other such assertions, as regards his contribution to university reform in India, appear somewhat exaggerated when examined in the light of the efforts of the House (Tata).

Tata papers⁷ make it amply clear that J.N. Tata, after having gained a lot from his business enterprises tried hard to stimulate the growth of post-graduate education in India, but it got obstructions from the Colonial Government of India. Still, his efforts provided a background which helped the cause of education, even in post independent India. He provided thrust as well as a new direction where research had been preferred over the examination oriented system of the British government.⁸

The Tata Plan for postgraduate education in India

J.N. Tata's plan for promoting post graduate education was not an overnight decision. The private JN collection records, that from the age of 20, Tata had travelled and lived in the major commercial and industrial centres of the world, where he seriously conceived and sought assistance for the inception of his own enterprises in India.⁹ During the course of his travels abroad, he

⁵ A Basu, *The Growth of Education and Political development in India*, 1898-1920, Delhi, 1972, pp. 80-83.

⁶ S. Gopal, *British Policy in India 1858-1905*, Cambridge, 1965, 260.

⁷ J.N. Tata Collection, Tata Central Archives, Pune (hereafter TCA)

⁸ Padshah Collection, 1-8, TCA.

⁹ F.R. Harris, *Jamsetji Nussenwanji Tata: A Chronical of his Life*, Blackie & Sons, Bombay, pp. 6-46. Harris writes that Tata lived in China and Japan

also observed and recorded the changes occurring in higher education caused by the demand for more science and new technological applications. Not only did he see in America, Germany and Japan, the prosperity which the application of science to industry had already provided, but he also met the officials and private citizens transforming old and creating new universities to promote such applications.¹⁰

This interest of Tatas had the combination of both foreign travel and the experiences and the plight of the education at home. The shortcomings of Indian universities, which examined but did not teach, had been noted almost from their inception in 1857.¹¹ The convocation addresses of Bombay University in which Lord Reay argued and urged the listeners:

“to select the wisest men in England and India, to establish in this old home of learning real universities which will give a fresh impulse to learning, to research, and to criticism which will inspire reverence and impart strength and self-reliance to future generations of our and your countrymen”¹²

This also inspired J.N. Tata. Six years later, when he was financially able to respond to Lord Reay’s appeal, Tata announced

(1859-68) to help revitalise his father’s trading interests, and in England (1864-81), when he set the stage for his cotton manufacturing industry. Tata timed his regular visits to Europe to coincide with international exhibitions and smaller trade fairs, where he purchased plant and equipment and hired consultants to assist him in his projects at home. He spent about fifteen years of his life away from India after his 20th birthday .

¹⁰ Harris, op. cit., 120-121, also quoted in Sebaly, p. 118.

¹¹ Sebaly, p. 118.

¹² T.O.I., 28 Sept. 1898

that he was prepared to form a 'project for the function of an indigenous university on a broad basis as done by private gentlemen of Europe and the United States'.¹³

Padshah & Tata's Plan

To give a concrete shape to his plan Tata turned to his former ward and newly-employed associate, B.J. Padshah (1864-1941).¹⁴ Padshah toured scientific and medical research institutions, universities and industries throughout the world for 18 months (1896-98) to gather information needed to plan an institution suited to the proposed Tata endowment. In this connection, he visited institutions in England, Germany, France, Belgium, Switzerland (and probably Australia, Japan, Java, and the United States and other European countries), where he recorded the advice of scholars, scientists and university leaders.¹⁵ Padshah returned to Bombay during the summer of 1898 with a 'load of reports' and drafted the outline and sent his blueprint of the report to friends from whom he had sought advice and to prospective members of the provisional committee that Tata would form in Bombay to plan and promote the project. His panel included a large numbers of both Indians and non-Indians¹⁶.

¹³ Tata's will, quoted in JN Tata paper, p.6, TCA.

¹⁴ Padshah Collection, B.J. Padshah to L. Fraser, 8 March 1913, TCA.

¹⁵ Padshah collection, Papers relating to Padshah scheme, p.16. Though the bulk of the records connected to his travels abroad have been lost, still one could establish these connections even from the diaries of Harris, Sir W. Crooks and others.

¹⁶ Times of India (hereafter T.O.I.), 30 September 1898.

Although Tata and Padshah were familiar with the British and European University models and research institutes, but they opted for John Hopkins University as the model for their own institution.¹⁷ This was done precisely keeping in mind the fact that the primary aim of the new institution was to teach and not to examine, which had been a trend in most of the existing schools & colleges as well as universities of the British and European origin. Accordingly, the programme of the institution was to focus on post graduate studies and incorporate different features of German Seminar, French Conferences, as well as English and American research classes. Initially instance Padshah felt that three schools – **Sanitary Science and Practice**, **Pedagogics**, and **Higher Technical studies** would be opened. Specialists would be invited to teach and conduct research in the libraries, laboratories, and museums of several institutions. The selected students would be given scholarships for further study in Europe and United States. And to manage its affairs, Tata would invite Bombay's academic and political leaders to join himself and Padshah as members of a Provisional Local Committee to take whatever preliminary steps were necessary to establish the university and secure its sound future.¹⁸

¹⁷ Harris, op.cit. XII, p. 124; T.O.I., 30 September 1898.

¹⁸ Kim P. Sebaly, p. 120.

Financial Situation & The Tatas

To get the institution started, Tata announced that he would donate his Bombay properties worth Rs. 30 lakhs, which to an estimate, would initially yield Rs. 1.25 lakhs for the institution each year. Padshah anticipated that if the things would proceed in right direction, the institute would become the 'crown' of the existing Indian universities. He argued that from the 1,000 students graduating in India each year, there would be sufficient number of students for the new institution. The scheme had been drawn up on the assumption that the institution would train Indians to "excel most not when they supply a demand or a felt need, but rather when they lead the demand . . .and they stimulate the conscious perception of a hitherto inarticulate need".¹⁹ And he had full confidence that there had been an urgent need of postgraduate education in India.

Padshah urged the need of value based and research oriented postgraduate education, in contrast to the examination oriented British system. He said;

"Whereas formerly classical and mathematical education were the marks of a class, which with the exception of the lawyer and the Parson, would be usually idle; nowadays, the complex problems in every walk of life require in all who have to do something more than execute orders, power-power to adapt a previously thought out scheme to every unforeseen energy. And to think consecutively and variously, and in due relation to all relevant elements so as to make a scheme; and

¹⁹ Ibid., pp. 120-121.

to be in possession of the principles of a problem so livingly as to have them ready for every first application – these two together constituted the faculty for research. The habits of research postgraduate professional courses inculcate everywhere, need nor surprise us. We are prepared for the postgraduate commercial schools of Paris, Antwerp or Vienna, the Polytechnics of Zurich or Charlottenburg or Dresden, where research is universal among students at the end of their courses, the Ecole Libre des Science Politiques and the Ecole des Chartes for administration and other offices”²⁰

He wanted a total overhaul of the courses and the curriculum, keeping the then needs of the society in mind.

Provisional Scheme & Padshah

Keeping the above requirements in mind, the details of the scheme were compiled and presented by the provisional committee, in due consultation with Padshah, to the public, weeks before Lord Curzon’s arrival in India. These included, the scientific and Technical Department which would offer courses in physics, chemistry and technological chemistry. The courses would be taught by three professors and three assistant professors. The Department would house two laboratories (physical and chemical), one technological museum and one library. It was estimated that the total outlay per year would be Rs. 1.52 lakhs, with an initial outlay for equipping the museum, laboratories and library of Rs. 2.25 lakhs. Along with buildings and infrastructure, Padshah estimated that the initial outlay would be about Rs. 10 lakhs. The

²⁰ T.O.I., 6 October 1898.

Medical Department, which according to Padshah plan, would initially develop studies in bacteriology, hygiene, and physiological and pathological chemistry – would require three professors and four assistant professors and have an annual expenditure of Rs. 85,000. The total initial outlay for laboratories and a museum would be Rs. 2.1 lakhs. The third crucial area of study proposed by the committee was the philosophical and Educational Department which would have one professor in each of the following fields: methods of education, ethics and psychology, Indian History and archaeology, statistics, economics and comparative philosophy. The total annual cost for the Department was to be Rs. 63,000 with an additional outlay for books and manuscripts of Rs. 1 lakhs.²¹

Thus, Padshah's estimate of the total initial outlay for the institution was Rs. 13.10 lakhs, with Rs. 3 lakhs needed for annual expenditures, or more than 16 times the anticipated annual income from Tata's proposed endowment. Scholarships, fellowships and travelling fellowships would require additional expenditure. With this final figure, the Provisional Committee made up their mind to submit the report to Lord Curzon, Viceroy designate to India, for support.²²

The Government of India and the Tata plan

After their final draft, the Tatas presented their proposal to the new Viceroy, Lord George Nathaniel Curzon. Curzon received

²¹ Indian Institute of Science Papers, Box No. 5, p. 38, TCA.

²² Ibid., p. 39.

the deputation led by Tata and Padshah, at Government House, to discuss their plans for the introduction of post graduate education in India.²³

They informed the Viceroy regarding the kind of research and teaching that would be emphasized in the three departments of the proposed institution and also introduced the draft bill for which they sought his help and assistance in securing legislation. Though Curzon acknowledged Tata's 'great generosity and public spirit', but at the same time also expressed several reservations about the proposal. These reservations concerned financial, legal and practical positions related to the scheme. He wondered whether there would be enough students to warrant hiring highly paid professors in the proposed departments, and whether at the end of their studies students would find acceptable employment opportunities. He also warned that it might be 'misunderstood' if the Government of India were to press any native princess to support

²³ Speeches by the Viceroy and Governor-General of India, 1898-1901, National Library Calcutta Quoted in Sebaly pp. 122. The representation was signed by E.T. Candy (Vice Chancellor of the University of Bombay), M.G. Ranada (Vice Chancellor of the University of Bombay), M.G. Ranade (Judge, Bombay High Court), T.J. Bennett (editor of the Times of India), Revered D. Mackichar (Principal, Wilson College, University of Bombay), B. Krishna (President, Bombay Municipal Corporation), Tata and Padshah. All were members of the Provisional Local Committee for the Institute and except for Ranade, were part of the deputation that visited Curzon on 31 December 1898. Other members of the Provisional Committee were P. Mehta (Member of Legislative Council), B. Tyabji (Judge, Bombay High Court), R.M. Sayam (Member of Legislative Council), R.G. Bhandarkar (Oriental Scholar), G. Geany (Editor, Times of India), T.K. Gajjar (Chemists), N.N. Wadia, N.G. Chandravarkar (Judge, Bombay High Court), M. Surajram, E. Giles (Director of Public Instruction, Bombay) and the Principals of Elphinston College, St. Xavier's College, Grant Medical College.

the project. At last, he also questioned the authenticity and wisdom of establishing a Department of Philosophy and Education.²⁴

However, the committee members had in their mind the probability of these questions occurring at this stage. Also, as Curzon was neither familiar with the state of higher education in India nor sure of the rationale of the Tata scheme, Tata committee thought it appropriate to brief him regarding the same. Thus, a committee member T. Candy, the Vice-Chancellor of the University of Bombay provided point to point reply of the doubts raised by him. He assured Curzon that the scheme would be implemented in stages as funds became available. He reported that none of the committee members saw any lack of employment opportunities for the graduates of the institution. He also reassured Curzon that it was the provisional committee that would make direct appeals to the native princess for financial support and suggested that the task could be easier if the Government expressed its support, for the scheme. The Philosophical and Educational Department, Curzon was advised, was included to 'give the institution the character of a university'. Another member, T.J. Bennett, the editor of the Times of India, emphasised that the preparation of teachers for secondary and higher education was critical for learning the art of teaching, and that ethics and psychology were integral to such a course. Tata also brought to the notice of the new viceroy that the

²⁴ Viceroy Papers, speeches by the Viceroys and Governor-Generals of India, 1898-1901, pp. 11-12. Quoted in Sebaly, p. 122.

Dewan of Mysore had expressed his willingness to contribute Rs. 5.5 lakhs to the scheme and had suggested that a Central Victoria University of Science chartered by the Government of India would make a fitting Diamond Jubilee Celebration. As regards the chairs in Indian history and archaeology and comparative philosophy, the private endowments would suffice the purpose and that there would be no need to draw money from the general funds of the institute.²⁵

Apart from these pointed assurances to the Viceroy, the provisional committee also distributed hundreds of copies of the provisional scheme to educational experts throughout India for comment and criticism. Though often critical, the respondents²⁶ gave support to the provisional committee's assertion that there was a need for such an institution in India and that in time, all aspects of the plan might be implemented. Reassured by the initial feedback of educational leaders throughout India, the provisional committee pressed the Government of India to give its sanctions to the scheme. It also announced that it would provide a grant-in-aid, to help support it, in its initial stages. Most respondents approved of the institution's designation as an 'imperial university' that should grant degrees, though a few noted the possible damage that competition might do to the existing universities. A majority thought that, there would be enough students who would come to

²⁵ Ibid; pp. 12-15.

²⁶ Indian Institute of Science Papers, pp. 40-46, TCA. These respondents altogether 76 in number, included principals of university colleges, school inspectors, and head masters

the university and would be absorbed by the institutions, after their completion of the degree. A sizeable number of respondents also thought that the endowment shall be divided among existing colleges and universities to develop similar fields of study. At the same time, few also had the doubt that to combine research and teaching in a single institution, would misguide the whole teaching process. Nonetheless, the comments were more than favourable to place before the Government for their final say in this regard.²⁷

However, from the Government side A.H.L. Fraser, Curzon's Home Secretary, in a departmental note treated the scheme 'with great sympathy' and also admired the planners regarding the care with which these models of Oxford and Cambridge had been set-aside in favour of a model more in keeping with the university system already existing in India'. He wrote, even the Philosophical and Educational Department, though it might be redundant, 'need not be excluded' from the scheme of the things. Moreover, training doctors and facilitating research in respect to problems connected with the health and disease had appealed to Fraser. Fraser felt that the Government and Governor-General would have no reason to hesitate in the present circumstances.²⁸

Padshah printed a pamphlet about new "university" scheme and sent copies of it to a large number of educationists, thinkers

²⁷ Papers relating to the History of the Institute, Box No. 5, TCA. This series contains the record of officials & residents and their suggestions and responses, as regards the proposed university.

²⁸ Home/Education, Proceedings 5 June 1899, A.H.L. Frazer's note (31 January 1899), NAI.

and public leaders for their opinion. As many as 76 persons, of whom 13 were European officers responded with their well-considered comments. They included the 'Dewans' of some states, 'principals' of several colleges, inspectors of schools, 'directors' of public instruction and some noted individuals from all the provinces of India except Madras where the matter was still being "favourably examined".²⁹

These responses were in the nature of a broad spectrum of opinions and suggestions. Their short summaries were prepared meticulously by Padshah without tampering with the organic integrity of the arguments. They were scrutinised by Justice Ranade of the Bombay High Court, who spared no pains in arranging the opinions under 11 heads, besides preparing a perspective memorandum on the subject. On the questions pertaining to the 'nomenclature' for the new institute, there was a near unanimity, on "The imperial university of India" was not an unexpected title in the colonial context. As to its location, nearly half of the opinions were in favour of Bombay. Calcutta came next. Poona, Nasik, Jubbalpore and Nagpur found smaller numbers of supporters. A few preferred Nainital, Coonor, Panchgani, Allahabad, Lucknow, Delhi, Bangalore and Roorkee. The general view was that good climate, easy communication, proximity to the industrial centres, cheapness of land and living, and suitability for bacteriological and

²⁹ Papers relating to the History of the Institute, the opinions of officials and resident gentlemen in India on the scheme for a research university to be founded by Mr. J.N. Tata, Fire Proof Document Series, No. 58, TCA.

allied investigations should be the factors to be considered for the location of the proposed institution. A majority of those who suggested Bombay, Nasik and Poona favoured the Bombay Presidency which in their view, combined these advantages in a measure larger than any other part of India.³⁰

In respect of the academic disciplines of the proposed institution, there was a general consensus that teaching of technical and scientific subjects should receive the first priority, medical investigations being next; and the philosophical and educational subjects were to be the last on the list of topics to be pursued. As opposed to this, there were discordant notes too. Some experts, especially from Bengal, Northern Provinces and the Punjab, opined that the entire scheme was defective as the proposed institution sought, "to combine the function of teaching in a university, the work of a research institute and of a teaching school". The noted chemist P.C. Ray was one of those who were not favourably inclined towards the new institution. Instead, their suggestion was that the money should be utilised for assisting the existing institutions by way of creating additional chairs and funding scholarships to enable bright students to work under competent specialists in 'India' and to send the selected ones to Europe to complete their training. But Justice Ranade observed that such a view as had been expressed by

³⁰ Subbarayappa, 'In pursuit of Excellence: A History of the Indian Institute of Science', p. 35.

the noted chemist P.C. Ray would be against the wishes of the founder. He argued,

“This alternative scheme as observed above goes to the root of the matter. It would obviously defeat one of the chief objects of the founder who has very strong ideas about the necessity of a teaching University which while it will not interfere with existing universities, will take up their best graduates at the stage where they are left to themselves, and give them a final course of finished teaching under the best masters. The founder attaches as much, if not mere, importance to this work as to research work pure and simple. The general inclination of a very large majority of the authorities consulted it in favour of this combination and, as our colleges cannot be as in England located together within the same town, the only practicable and efficient way of securing a teaching University in India is to bring the best men from all places to one Central University and to try to utilise our resources to the best advantage.³¹

The query as to whether there would be an adequate number of qualified students to join the proposed university, evoked a positive response from 47 out of 76 experts. Over two-thirds of them foresaw no difficulty in this respect, while the rest admitted that if some financial support in the form of stipends or scholarships was provided, there would be no lack of bright students who would seek admission to the new “university”.³² The possibility of securing employment for the trained students was rated high by a considerable number of experts in view of the

³¹ Papers related to the History of the Indian Institute of Science, File No. 5, TCA, also quoted in Subbarayappa, p. 36.

³² Subbarayappa, p. 36.

plausible development of industries in the foreseeable future with the support of the Provincial Governments and the Native States. There was a somewhat general agreement with regard to the constitutional structure of the “university”, which it was opined, would be amended from time to time, depending upon the exigencies.³³

Padshah – Curzon Controversy

After the formal approval of the draft from the Provisional Committee and before a meeting with Walter R. Lawrence, Curzon’s Private Secretary (1898-1903) in Calcutta, Padshah travelled throughout the North West Provinces and the Punjab ‘to make people acquainted’ with the nature and scope of the scheme in relation to the history and growth of postgraduate education elsewhere in the world. In the course of his meetings with local groups interested in the plan, he reported that he thought the new Viceroy was ‘in sympathy’ with its general objects. When newspapers reported this, Padshah received a sharp rebuke from the Home Secretary, asking him to ‘desist from quoting Lord Curzon’s name or views in the context in which you have no authority to use them and where their unauthorised use can have no other consequences than to prejudice the future chances of the scheme’.³⁴ The Curzon Government was beginning to feel the sting of public criticism for its failure to support and expedite the Tata’s

³³ Ibid, pp. 36-37.

³⁴ Ibid, p. 35

plan and Padshah was viewed as the primary cause of the bad press. He was held accountable for delay from the government side. Government charged Padshah of an ambitious plan. On the contrary, Padshah rejected the Government's assumption and wrote a sharp report to Fraser in which he said;

"I am convinced that the committee's programme is even less than the minimum, that the estimates are low, that the prime object is to catch talent of originaive character wherever it can be found, to cultivate philosophic or scientific methods of thought, and that a cultivation of economics and statistics is likely even to advance the material condition of the country; that in any case to catch talent necessarily diverse, our programme should be concurrent to these departments we here mark out. I am also convinced that our programme can be satisfactorily carried out only with the general benevolence and financial help of Government."³⁵

Shimla Conference & Tata's Scheme

However, to resolve the above differences between Tata's Provisional Committee and the Government of India, Viceroy Curzon invited J.N. Tata to what would be the first of his Shimla Conferences on education. Thomas Releigh, Legal Member of the Viceroy's Council (1899-1904) and later the Chairman of Curzon's University Commission and Fraser were the principal representatives of the Government. Both sides reviewed Mr. Tata's proposed endowment and the programme of studies recommended

³⁵ Home/Education, Proceedings 1-2 September 1899, Padshah to A.H.L. Fraser (4th September 1899) NAI.

by Padshah. The conference report had been a mixture of caution and agreement from both the sides. While accepting the view that there was a need for a central research institute under central authority, it was also necessary to support existing facilities for research, perhaps through grants to students and teachers. It was clearly stated that certain fields of research, such as technical chemistry, might be necessary at the proposed institution and also few branches must be conducted among from the said institution.³⁶

The conference listed the issues on priority basis. Under it, it was decided that certain parts of the scheme should be carried out first and the rest when funds permitted. The Scientific and Technical Branch and Medical Branch would have preference over the Philosophical and Educational Branch. As regards the location, Bangalore was preferred over Bombay for the new institute. The Government representatives favoured the title 'university' and recommended that the institution be called the 'Indian University of Research'. However, owing to its emphasis on postgraduate work, the university would grant fellowships but not degrees.³⁷

Following the conference, the Government of India issued a cautious resolution which accepted the recommendations of the Shimla conference, praised Tata and announced that 'as soon as the scheme has been matured in all details', legislation would

³⁶ The History of the Institute of Science Papers, Box No. 5, TCA, the 18 page pamphlet addresses these issues, which had been printed by Provisional Committee following the Shimla Conference.

³⁷ Kim P. Sebaly, p. 124

proceed. The Central Government would ask the Government of Bombay 'forthwith' to nominate an officer to transfer the property which was the basis for the Tata endowment.³⁸

Ramsay Plan and the Tata Scheme

With reservations, the Government of India gave their tentative approval to the Padshah plan for executing Tata's endowment. In order to assist both the Government and Provisional Committee, it was agreed that one or two experts be brought from England to confirm that Bangalore was the most suitable site for the new university, and to help determine the actual expenditures necessary for the buildings and their accessories. After a detailed discussion, Professor William Ramsay, whom Tata had met in London in 1900, was invited by the Provisional Committee to offer such advice. Ramsay stayed for two months and toured intensively and finally presented his report in February 1901.

In the course of his stay, he toured educational centres throughout India and, with the possible exception of Lucknow, he reported that he found 'little effort in the country to involve students with the desire to carry out researches'. He structured his report, in sharp contrast to those put forth by Padshah, on the three questions that were posed by Curzon to the deputation that had met him on his arrival;³⁹

³⁸ Ibid.

³⁹ Home/Education, proceedings July 1901, Vol. 6111, No. 38 pp. 582-603, NAI, also available in Indian Institute of Science Papers, Box No. 5, TCA, pp. 84-98.

1. Though Ramsay found Indian Science to have limited value, he was confident that, with adequate scholarship, 80-100 students would be available annually for admission.
2. On the second question, Ramsay agreed with Curzon that suitable openings for graduates of this institution would be difficult to find, but he argued, it would be 'possible to create industries while training young men', which commercially successful, could be managed by assistant professors and students who would eventually leave the institution.
3. Ramsay had no objections to the Philosophical and Educational Department, but thought that it should be introduced at a 'future date' and it should initially be limited to oriental studies and possibly economics and statistics.

His observation even went beyond the Tata plan on several matters. He strongly urged that the title 'Institute' be substituted for 'University' as the institution could not cover research in all branches of knowledge'. Instead of the three branches proposed by Padshah, Ramsay recommended that department of general chemistry, engineering technology, electrical technology, general physics, and industrial technology be developed, so that the proposed mission of creating new industries be supported. As regards his estimates of the total cost of starting the institute, he advised Tata not to consider starting the institution, unless there was an annual income of Rs. 2.1 lakhs or nearly 1 lakh more than

the anticipated income from the proposed Tata endowment. Ramsay agreed with the Shimla conference that Bangalore was the preferred site for the institute.⁴⁰

Both Curzon and the Provisional Committee were disappointed with the Ramsay report. They mutually agreed to seek another opinion. Thus, they requested Professor Orme Masson, Professor of Chemistry and Vice-Chancellor of the University of Melbourne, who was on his way to England for a visit, and Lieutenant Colonel J. Clibborn, Director of the Engineering School at Roorkee, to review the work of the work of the Provisional Committee and the Ramsay Report and make their own recommendations.⁴¹

Masson – Clibborn Report and the Tata Scheme

Masson and Clibborn⁴² argued that the Government's fears about the alumni not finding careers seemed to be 'exaggerated'. Rather, they pointed out, 'their difficulty would be to avoid being choked with work'. Scientific problems awaited solution everywhere in India', but in their opinion, the range of problems the institute should consider had to be severely restricted. Though, it may well be hoped that ultimately something like the full original plan may be carried out, it would be necessary in the beginning to limit the

⁴⁰ Ibid.

⁴¹ Minutes of a member of the Provisional Committee held on 10th July 1900, Indian Institute of Science Papers, Box No. 5, TCA, pp. 97-101.

⁴² The proposed Indian Institute of Science, Report by Professor Orme Masson and Lt. Col. J. Clibborn, Indian Institute of Science Papers, Box No. 5, TCA, pp. 139-151. Also Home/Education, Proceedings Feb. 1902, No. 6, vol. 6343, pp. 763-775.

field of study owing to the unavailability of funds. They advised, that a start be made with a school of experimental science, which would have a threefold mission; (1) to train students who would be 'limited with the spirit and methods of experimental investigation; (2) to carry out and publish original researches of scientific interest; and (3) to become 'accepted central authority on any scientific question within its domain in India. The domain was to be severely limited. Instead of Padshah's three departments with special subspecialties on Ramsay's concentration on industrial technology, Masson and Clibborn proposed that the institute be composed of three schools – Chemistry, Experimental Physics and Biology, with each having a professor and an assistant. Masson and Clibborn, while agreeing with Ramsay that 'institute' was a better title than 'university', thought that 'institute of research' was too pretentious and they recommended that it be called the Indian Institute of Science.⁴³

In other recommendations, they advised that the proposed court was too large for it to meet conveniently and that a council would replace the Board, which could serve the purpose better. They objected to the provision that would have representatives of the five Indian universities on the court. They estimated the total annual expenditure to be Rs. 1.66 lakhs or only Rs. 25,000 more than what the Tata income would yield. It also estimated that the total capital expenditure would be about Rs. 6.6 lakhs, somewhat

⁴³ Ibid, also quoted in Sebaly, pp. 126.

more than what Ramsay had estimated and less than half of Padshah's original plan. In the meantime, Tata were ready to proceed as they had grown weary of delays in implementing the institution and agreed to the scaled-down version in order to provide the start upon, which they might later expand. In May 1902, J.N. Tata visited London so that he could persuade his friends to press the Government of India to 'move the project along'. But he had been advised by Ramsay, Edward Candy and Colonel Clibborn to 'hold the project in abeyance'. This was done keeping in view, that the Curzon Government had appointed a committee to investigate the university education and was about to issue its report (June 1902) and would begin drafting legislation for its University Bill the following year.⁴⁴

However, the Tatas continued their efforts in this regard. For the next four months J.N. Tata attempted to push the project forward. It was his effort, that made Charles E. Schwann (Liberal Member of Parliament from Manchester) to raise the issue in the House of Commons. But the Secretary of State repeated the conclusion of the previous summer – that the project was 'being held in abeyance'.⁴⁵ Padshah protested and felt that the delay had been deliberate and was purposely meant to serve the colonial interest. In a lengthy letter to H.H. Risley, the Home Secretary, he wrote that, 'As a ruler among rulers it has to support this

⁴⁴ Harris, op.cit., pp. 140-141.

⁴⁵ T.O.I., 12 May 1906.

department of education, so essential for the progress and well-being of the people as a whole, and yet so costly in acquirement and so uncertain in reward to the individual that it cannot be left to any agency that is not supported by the state'. He further said that it is not new and the trend is prevalent in the universities like Oxford, Cambridge, and Dublin, where the state supports the scheme of education. It is more true in India, he argued, 'as the Government of India is not merely a ruler but an employer of labour and owner of the instruments of production and transport - land, water, railway and fuel'.⁴⁶

Thus Padshah obviously had great expectations from the Colonial Government of India and when he found that the Government had been a bit indifferent to the Tata proposal, he charged the Government of ignoring the Tata scheme in favour of its own science and university reform plans, in the following words;

"I have spoken at length and with candour; because I think that it is essential that Mr. Tata's thoughts should be understood. Signs are not wanting that if Mr. Tata should stand aside today, the whole of his programme and more (though, perhaps, not always with his insight) would still be carried out. That is indeed a fresh reason for caution. An institute at Bangalore, step-mothered by Government, may languish for want of funds, students, appliances and professors, if all are seduced from it by institutions of the same kind handsomely planted everywhere. Mr Tata's committee will have to take care that in the present perturbation about university reforms, the institute is not

⁴⁶ Home/Education Proceedings 5-7 May 1903 'B.J. Padshah to H.H. Risley, 17 March 1903'.

started while all the work that it is proposed to do is handed over to others with liberal resources. My greatest anxiety with regard to the Research Institute has been that in the recent resolution of the Government or the coordination of research in the Scientific Departments, or in the Report of the University Commission, the existence of the project has been ignored. Why was it?⁴⁷

But the Curzon government saw in these letters an insidious attempt to (a) put the government in a fix and onus on the government, in case, if the plan fails in future; (b) also to reintroduce the idea of a family settlement. The second point is aptly clear from the statement of H.H. Risley, when he said;

“Tata and Padshah saw the endowment as a way to guarantee that the property investment would be well managed and thus bring higher reverences to the institute.⁴⁸

On the other hand, Curzon Government saw it as an encumbrance that might subsequently embarrass the Government should the institute fail in its mission. Though Curzon initially argued that the settlement might be used to force Tata's to sever the Philosophical and Educational Department from the plan, and to modify other aspects of it, his Government steadfastly refused to

⁴⁷ Sebaly, p. 128.

⁴⁸ Home/Education, Proceedings May 1903 'H.H. Risley note' (30 March 1903) pp. 10-11, NAI.

accept the proposal. Tata dropped his request for the family trust for the last time in June 1901.⁴⁹

Curzon reacted to Padshah's charges in his budget speech before the Legislative Council on 5th March 1903, in the following words;

"Before I leave the subject of education, I will only add one word upon the subject of Scientific Research. This is of course the apex of educational advancement; and in relaying the foundations nothing would give the government greater pleasure than to contribute to the possibility of adding the crown I hope that Mr. Tata's splendid benefaction will shortly take practical shape. I have seen all sorts of assertions that it has languished for want of sympathy in official quarters. There is not an atom of truth in this insinuation, and when the history is published, as it shortly will be, no further mis-apprehension need arise. On the contrary, I hope that the scheme may then move rapidly towards realisation".⁵⁰

After a series of charges and counter charges, Curzon issued 'the history' of the scheme promised in his budget speech and new proposals for support of the plan. In a long memorandum the Home Secretary, H.H. Risley, reviewed the history of the project and outlined the changes that had been made in the Government's position.⁵¹ He reviewed Ramsay's, Masson and Clibborn's recommendations and announced the willingness of the

⁴⁹ Padshah Papers, Family Trust, June 1901, TCA.

⁵⁰ T. Raleigh (ed.), *Lord Curzon in India : Speeches* (2 Vols., London, 1906, pp. 1-123) Also quoted in Sebaly, p. 128.

⁵¹ Aparna Basu, p. 82.

Government to make additional grants to the institute. He also proposed that the Government would contribute 'one third of the current expenditure of any year, subject to a minimum of Rs. 75,000'. Government also proposed a sum of Rs. 1 lakh towards the construction of the institute's buildings. Additional funds would be sanctioned if the Mysore Government were to increase its donation. Apart from other things, the current move also reflected the change in the Government's strategy of support for India's universities that has been outlined in the University Act (1904).⁵²

Disagreements further arose between the Tatas and the Government over the true value of the Bombay properties that would be endowed and it became a necessity to appoint arbitration in this regard. G.R. Lowndes, Legal Member of the Viceroy's Council, wrote to the Bombay Government in August 1903 to explain the basis on which the valuation of Tata's properties had been made and to announce that Mr. Tata had agreed to provide an additional income sufficient to guarantee that income from the endowed properties would never fall below Rs. 1.25 lakhs. When Lowndes's complete report was ready in early March 1904, and was transmitted to the Government of India alongwith the recommendation that the Indian Institute of Science be established

⁵² Sebaly, pp. 129-30.

on the lines recommended by Masson and Clibborn, J.N. Tata died in Germany.⁵³

Though J.N. Tata died, still the blueprint prepared by him and his architect Padshah could not be erased. He fought hard to realise his dream. He failed to do so in his life time and left his dreams to be accomplished by his sons Dorab and Ratan. The next chapter would show how his sons in the following years tried to fulfil the promises of his father.

⁵³ Valuation of the Tata's property in Bombay, Indian Institute of Science Papers, Box No. 5, TCA, pp. 78-80.

CHAPTER – III

TECHNICAL, SCIENTIFIC AND INDUSTRIAL EDUCATION: ACCOMPLISHMENTS OF THE TATA HOUSE

In the very month (May 1904) of the submission of the arbitration by Lowndes, which would have perhaps satisfied Jamsetji, he passed away. His untimely death proved fatal for the growth of the Institute. He, as an architect of the plan, could not see the fulfilment of his schemes. His efforts, however, helped in achieving a blueprint for the Institute. Now, the responsibility to make the blue-print a reality rested on Ratan and Dorab.

During his lifetime Jamsetji had experienced to his satisfaction the success of his business adventures for which he had laid a solid foundation. Had he lived a decade longer, he would have happily witnessed the fruition of his triple-stranded vision – the establishment of the Indian Institute of Science (1909); the establishment of an Iron and Steel works at Sakchi (1907) as well as the rise of a new township now called Jamshedpur (named in his memory); and the hydro-electric power plant near Bombay (1915). Though his mortal body perished, his spirit and patriotic zeal continued to be a source of inspiration and his two sons left no stone unturned to realise the same. This chapter is an attempt to capture the success story of the House in pre-Independent India, particularly in the sphere of scientific & industrial education.

Curzon - Dorab Controversy:

Like the J.N.-Curzon episode, the Dorab-Curzon controversy further hampered the fruition of educational scheme. It took another few years to put the issue on the right platform. Within two weeks of J.N. Tata's demise the Government enquired with his sons as to the effect of their father's death on the scheme of founding the Institute. Both Ratan and Dorab Tata assured the Government of India of their readiness to carry out the wishes of their father. Soon after the funeral, Dorab met Curzon. He told Curzon explicitly that if the Government failed to offer adequate financial support to the new Institute, he and his brother would withdraw the offer and utilise the money for educational purposes in some other manner.¹

In reply Curzon appeared to have consented to re-examine the entire scheme. He also promised, in principle, to provide a grant-in-aid to the extent of half of the amount collected from all other sources, both for capital and recurring expenditure, on a continuing basis. Curzon's promise, however, did not match his action. His prejudice and total reversal from his earlier statement could be judged from his letter, which he wrote to Dorab Tata, on 12th July 1904:

“Since the scheme is your father's and nobody else's and since its successful accomplishment depends in the

¹ Home/Education 'A', Proceedings Feb 1904, pp. 94-106 (letter of Dorab Tata to Curzon, 13 July 1904), NAI.

opinion of your committee, upon the provision of a sum greater than the Government of India have ever felt to be necessary, why do not the representatives of the Late Mr. Tata themselves make up the alleged deficiency instead of perpetually appealing to the Government of India and the Mysore Government to come to the rescue? There seems to me as I told you the other day to have been too much scheming to get the Government into an enterprise private in its origin and character and to produce a situation in which if the project failed at any time; to carry out the aspirations of the authors, it would be possible to say, 'it is all the fault of the Government'.²

This statement was shocking as well as revealing for Dorab. Shocking in the sense that he never expected that Curzon might take up the matter this way; and revealing, in the sense that now he could smell the kind of politics behind such a reply. Dorabji, however, was very quick in his reply. He once again felt the need to clarify his father's vision and stand in this regard. As against the narrow approach of Curzon, his letter of 13 July 1904, very well explains the broad contours of the plan;

"From the very beginning my father's view have been to make this scheme a National Institute for the advancement of the moral and material progress of India in trying to raise her if possible, to the same level, scientifically and intellectually as the rest of the world. He held that this was an object, which should appeal as such to the Government of India as to the people of India at large. He never meant that the Institute should be in any way be considered a private one and from the beginning

² Home/Education-A, pp.94-106, (Feb, 1905), 'Curzon to D.J. Tata', July 12, 1904, NAI.

set his face against having it called the Tata Institute or University, though Mr. Candy and other members of the committee often suggested it. His contribution he meant to be only a standing fund as nucleus around which large and small sums should gather and grow till an Institute worthy of India and her past greatness and advancement in all branches of knowledge should be formed".³

Despite his quick and clear assurance in this regard the colonial government under Lord Curzon, tried to scuttle the move, under one pretext or the other.

Seeing the delay, Dorab again visited Curzon in August 1904. In this meeting, Curzon brought the issue of B.J. Padshah and the Native press, before Mr. Dorab Tata. He said that both Padshah and the press are trying to derail the project by projecting the government as opposed to the said scheme. He also doubted the sincerity of the Mysore State.⁴

After three rounds of talk, however, they were on a reconciliatory path. In the meantime Dorab and Ratan, requested the Bombay Government to transfer their Bombay properties for the Institute to the Treasurer of Charitable Endowments. This, in a way almost cleared the doubt and assured the government of Tatas firm commitment on the issue. After the passage of University Act of 1904, the colonial government under the Viceroyship of Curzon

³ Home/Education-A, Proceeding 94-106 (Feb, 1904), 'D.J. Tata to Curzon', 13 July 1904, NAI.

⁴ Ibid., Curzon's note of 18 August 1904, mentions that the government under Lord Curzon had a range of problems, which concerned the issue of Padshah, Native Press and the state of Mysore. These issues were not new and had been there since J.N. Tata initiated the scheme.

found a rationale to increase the proposed grant to the Institute. And they almost doubled the amount for the proposed Institute. The colonial authorities also discussed the other aspects related to the project and the discussion more or less ended on a positive note. When the decks were cleared for the opening of the Institute at Bangalore, they had before them the herculean task of finding a suitable director to the said Institute.⁵ Morris W. Travers, Professor of Chemistry at the University College, Bristol, accepted the offer of directorship, on the request from the India Office, London.

Morris W. Travers: First Director of the Institute

Right from the beginning, the relationship between Travers and the Tata House had not been cordial. The main contention between them however, was disagreement over J.N. Tata's purpose in establishing the Institute and Traver's appointment as its Director. At the outset, Travers called for changes in the Masson-Clibborn plan, which to his mind was drawn essentially on Padshah line. Going a step further, he said that the U.S. model, as proposed in the draft by Padshah may not work, and should be brought on the lines based on the universities of Liverpool, Leeds, Birmingham, Manchester and Sheffield. He also objected to the idea that the Institute's court be given extra powers in this regard. Travers called the constitution drawn up by Padshah and his advisors as 'an

⁵ History of IISc., Fire Proof Document Series, Box No. 68, TCA, Pune. (Hereafter only Box No. because most of the documents of the House are kept in Fire Proof Boxes.

amateur set of regulations'. He also objected to the idea of Padshah, regarding the opening of departments like History, Anthropology and Philosophy. In this regard, he also warned Padshah that any proposal beyond the Masson-Clibborn report, would be a violation and it may led to his resignation.⁶

Travers also communicated his displeasure to the Government officials. He reported that the Tatas were entirely in the hands of Padshah and declared that he was not prepared to reopen the discussion on matters which had already been settled, or to enter into any kind of negotiations with Mr. Padshah. Travers also informed Padshah directly, that he would not deal with anyone in discussions over the Institute except the Home Department and the legal representatives of the Tatas.⁷

Padshah, after going carefully into these criticisms, answered in cool, composed and in a principled manner. He reassured Travers that he had no desire to have a finger in the final draft of the proposals. But he explained to Travers that the power which had been given to the court was a necessary modification in India of the typical British University Constitution. He also cautioned to Morris Travers that while taking any sort of decision related to the growth, development and the history of the scheme, the wishes of Mr. J.N. Tata should be kept in mind. He repeatedly made his plea

⁶ Padshah papers, 'letter written by M.W. Travers to E.J. Padshah' on 23 December 1906, TCA, Pune.

⁷ Home/Education - A, Proceedings, 1907, 160-165, 'M.W. Travers to H.H. Risley' (17 April 1907), NAI.

in the letters to Travers and reminded him of the Tata's pledges to the public in this regard.⁸

Though, the irritation of Travers continued against Padshah, still the agreement on the constitution of the Institute was finally reached in December 1907. A Standing Committee of the court was to be established to make the Court's receipt of advice from the Council more effective. The Tatas, however, reserved the right to appoint two members to the Institute's Council, which gave them an even closer look at the work being carried out at the Institute. Padshah was one of the two members appointed by the Tatas and he frequently did not like what he saw. At this stage a likely confrontation had been averted between Padshah and Travers, by the timely advice from Risley. Risley also asked Travers that he should never try to open the question of the founders intent, which will open further the floodgates of the trouble.⁹ This move of Risley, however, closed the chapter of intent.

The Vesting Order of the Indian Institute of Science giving legal sanction to the Institute and the governing bodies that would be appointed to manage it was signed on 27 May 1909 and this temporarily closed the question of the Institute's origin. Trouble, however, was not yet over. Padshah complained that the Institute's council was not meeting with representatives of the court and was

⁸ Home/Education 'A' Proceedings, 160-165 (1907), 'B.J. Padshah to M.W. Travers' (April 20, 1907), NAI.

⁹ Home/Education - A, Proceedings, pp.74-96 (January, 1909), (Letter by Ramsay to Travers, July 8, 1909), NAI.

concerned that the council was pushing to sanction expenditures that were unauthorised, and making commitments to future initial expenditures almost twice those of the original estimates. Padshah maintained that this may surely imbalance the budget, which had been set with so much consultation.¹⁰

Differences also cropped up on the question of branches, originally prepared and attached by the Provisional Committee and Padshah. In this regard, Padshah wrote numerous letters to Travers in 1910 urging the establishment of the School of Social Studies at the Institute. The School should make it a part of its business not merely to draw inferences from published statistics, but to test them, suggest methods of improving them and in some cases organise collections of statistics for their own use. He also asked Travers that he had used these methods earlier and found suitable to the Indian conditions. He also informed Travers about the work of C. Booth, B.S. Rountree, and P. Geddes, which he thought could be applied in India. Other topics, Padshah and D. Tata wrote to Travers about were on Dietetics, Archaeology, Women's Education, and Tropical Medicine. In this way, both the Tata brothers and Padshah, made several suggestions to Travers that would have extended the offerings of the Institute but Travers remained unconcerned about these things.¹¹

¹⁰ Papers relating to the History of the Institute, 'First meeting of the Council of the Indian Institute of Science', 6 September 1909, Box No. 6, TCA.

¹¹ Padshah papers, 'B.J. Padshah to M.W. Travers', 24 October 1910, TCA, Pune.

Continued obstinacy on the part of Travers and his separate motives, now started irritating both the Tata brothers and Padshah. They were now almost sure that Morris W. Travers would never allow the growth of the Institute in its own way and this may hinder the Institute in achieving the desires of its founder J.N. Tata. The differences, however, between Padshah and Travers did not last long. In 1911, Padshah resigned from the Council to take up an appointment in the newly established Iron and Steel works of the Tatas at Sakchi.¹² Nevertheless, Padshah's commitment to the Institute was not in the wane. In 1915, he suggested that a Department of Metallurgy which would work in cooperation with the Iron and Steel works would be a useful addition to the Institute. Travers was no longer the Director then, and the Council accepted this proposal in principle if the needed funds were made available by the iron and steel works as an endowment for supporting one Assistant Professor and equipping the laboratory. This move, however, remained in pipeline for a long period of time due to the paucity of funds.¹³

In the meantime, Travers had taken a number of steps, relating to the building construction of the said Institute. Travers was keen on opening the Institute as early as possible. For this to take effect, he not only accepted the costly contract of Messrs.

¹² B.V. Subbarayappa; *In Pursuit of Excellence: A History of Indian Institute of Science*, TMH Publishing House, New Delhi, 1992, p. 80. (hereafter Subbarayappa).

¹³ Annual Report (1915-16), p. 8. Also quoted in Subbarayappa, pp. 80-81.

Stevens & co., but also used to instruct the contractors in his own way, unmindful of the fact that some legal problems could arise sooner or later. The costs of construction showed an increasing trend. In the beginning, Travers was acting with the help of the Finance Committee, consisting of himself, the Dewan of Mysore and A. Hay. But soon there were disagreements between him and the Dewan of Mysore, and the later began to refuse to sign cheques for payment to contractors. Travers opened an account in his own name and even secured a loan from the Bank of Madras for expediting the construction activities.¹⁴

In April 1912, at the end of the first year of the Institute's operation Travers went on leave. In his place, Norman S. Rudolf, who officiated as Director, had created some administrative and financial problems. Along with Chatterton, Director of Industries, he spread the rumour that Travers had embezzled the Institute's funds. In this way, Travers had become a victim of his own style of management and personal conflicts with the Council. There was also a charge that Travers was indulging in extravagant expenditure regarding the construction of buildings and allied aspects. Rudolf too had come in for criticism. There was a charge that he had purchased Rs. 2,600 worth of manure, out of the Institute's funds, for his own garden. Apart from these direct charges, there were charges of authoritarianism, and negligence of the aims and vision of the founder. The council examined all of these in depth and, in

¹⁴ Subbarayappa, pp. 85-86.

order to have an objective appraisal, requested the Viceroy as Patron of the Institute, to appoint a committee of enquiry to go into the vexing problems.¹⁵

The Viceroy appointed a special committee of enquiry that would investigate alleged charges in the Institute's construction, finances and rules of expenditure, arrangements for framing syllabuses, complaints of students and the conduct of the Director. The Special committee began its review on 17 April 1913, and by mid-June had completed its report. The orders of the patron of the Institute (i.e. the Viceroy) were ready by December and Travers was informed that the continuance of his services in the Institute would be 'inimical to its best interests', and that the Government of India would prefer to seek his retirement rather than force him to resign.¹⁶

Travers who finally agreed to retire, received full benefits and severance pay according to the agreement under which he had come to India. He left Bangalore on 24 June 1914. However, in his unpublished Autobiography, he summarised the experience of India in the following words;

"The first director on arriving in India in 1906 found himself faced with the fact that Mr. Padshah, who was backed by the Tata brothers, was not interested in science and technology but was determined to have chairs of archaeology, history and economics of a political

¹⁵ Home/Education – A Proceedings, Part B, Nos. 43-45, April 1913, NAI.

¹⁶ M.W. Travers, Unpublished 'Autobiography', Part III (India), Chapter XI, p. 10, quoted in Sebaly, pp. 134-135.

character, established at the expense of scientific subjects. This led to an eight-year struggle. In the end, the Director won the battle, but was forced to resign his appointment. But Mr. Padshah also disappeared from the scene and the policy which the Director had put forth had endured".¹⁷

A.G. Bourne & IISc

When Travers and Rudolf went back to England in the middle of 1914, Alfred Hay was appointed as officiating Director, and Sudborough was requested to hold the chair and look after the work of the Departments of Chemistry. The search for a new Director began. The Council of the Institute, after formal consultations offered the Directorship to A.G. Bourne. He declined the offer first, but eventually consented and joined the Institute in October 1915.¹⁸

Despite the financial constraints due to the war, the council decided in the very first year of the war, to Institute on its own a system of scholarships of two kinds: i) entrance scholarships to attract students and, ii) research scholarships to aid students who had already done appreciable work in the Institute. Both were to be awarded from year to year. In the first year of the war, eight entrance and three research scholarships were offered. A.G. Bourne relinquished his position as Director in 1921. Alfred Hay was again made the officiating director. Alfred Hay retired in December 1922 and J.K. Catterson – Smith replaced him in 1923

¹⁷ Ibid.

¹⁸ Annual Report 1914-15, pp. 2-3, quoted in Subbarayappa, pp. 89.

as Professor and Head of Department in 1931. F.N. Mowdawalla, an outstanding alumnus of the Institute, who was working then in the Hydro-electric Department of the Government of Madras, was appointed as Professor of Electrical Technology at the Institute. He was the first Indian to become a Professor at the Institute.¹⁹ The Reviewing Committee were appointed by the Government of India – one in 1921 and the other in 1930 to examine the working of the Institute to offer suggestions for improvement.

IISc and the States

In these initial years, the Institute also catered to the needs of the states in different way. This aspect of the Institute is very important, and needs a closer look. This aspect is also important in the light of the fact that J.N. and his vision addressed the same. States like Karnataka, T. Nadu (then Madras), U.P., C.P. and other states utilised the services of the Institute in these years.

In 1913, Sir M. Visvesvaraya, the new Dewan of Mysore, was nominated to the council of the Institute by the Government of Mysore in place of T. Ananda Rao on the latter's retirement from the office of Dewan. Visvesvaraya, known for his dictum 'industrialise or perish', was deeply interested in the industrialisation of the Mysore state. His association with the Institute had its impact on the applied researches of the Institute. On the suggestion and with the needed financial support of the Mysore Government, specific experiments on the extraction of oil

¹⁹ Annual Report, 1921-22 and 1931-32, quoted in Subbarayappa, pp. 89-90.

from sandalwood were successfully conducted by Watson and Sudborough with the technical assistance of Venkataranga Iyengar and Parthasarathy. The Mysore Government also deputed two students, with scholarships, to undergo training at the Institute, thus getting them qualified to take up the post as assistant chemists in the newly setup Government Sandalwood Oil Factory. Mysore Government also sought technical help of the Institute to obtain scientific data regarding the yields of charcoal, tar acetic acid and wood spirit in respect of some common trees of the forests in the Mysore state. In addition, several experiments were carried out on alkaline earths and bauxite deposits found in Mysore state.²⁰

The Madras Government too endeavoured to benefit from the expertise at the Institute. The experiments on the analysis and retiring processes of fish oils of the western coast, undertaken by A.K. Menon, led to the production of spraying soap fluids, which were effectively used by planters of South India. The Madras Government also solicited the assistance of the Institute to setup industries relating to oils and fats, tanning materials, disinfectants and the like, besides production of refined common salt. Certain chemicals like ethyl chloride, sodium acetate and fused zinc chloride and the like were produced in bulk quantities and supplied to medical stores of the Madras and the Mysore Government during

²⁰ Subbarayappa, pp. 92.

the First World War. In states, even U.P. Government secured the help of the Institute in solving some of its industrial problems.²¹

Apart from the states, in 1916-17, the Tata Iron and Steel Company desired that the Institute conduct experiments on fertilizers with a view to enhancing the value of waste products of iron and steel furnaces. But it stipulated the condition that, while the company would offer substantial funds for such investigations, the exclusive rights of the processes for their commercial exploitation would have to be ceded to the company by the Institute. This condition was unacceptable to the Institute. For, as a policy, it was thought that scientific results should be published widely to set at naught the monopoly interests. The Tata Iron and Steel Company chose to withdraw its offer of financial support.

In 1916 G.J. Fowler joined the Institute. Before he arrived in India, Fowler had been working in England on the production of acetone. Soon Fowler was appointed as Consulting Adviser by the Government, for setting up a factory at Nasik for acetone production. The production unit at the Institute was moved to Nasik. Extensive investigations were also undertaken on *mahua* as a source of production of power alcohol, cellulosic and acetic fermentations, some indigenous dyes, white lead and varnishes. As a result of the applied investigations carried out at the Institute for about five years, six production units were in operation by the end of 1917. The Government Acetone Factory (Nasik). Sandalwood Oil

²¹ Ibid., pp.93.

Factories (Bangalore and Mysore), Thymol Factory (Hyderabad-Sind), Soap Factory (Bangalore and Mysore), Thymol Factory (Hyderabad-Sind), Soap Factory (Bangalore), and Experimental unit for making straw boards from bamboo (Bangalore). In addition, technical help was rendered to the state of Hyderabad for the production of alcohol from *mahua* flowers and to the Mysore Spinning and Weaving Mills (Bangalore) for a durable tentite-dye using indigenous sapper wood and cutch. As a result of his innovative ideas, Fowler was invited to visit Shanghai and Wankow in 1918-19, to advise the municipalities there on the potable water supply and sewage disposal. The system of sewage treatment and water supply at Jamshedpur was based on the advice tendered by the scientists of the Institute.²²

During the war, the Institute also collaborated with the Indian Munitions Board with a view to utilising local resources for war purposes. There were several other investigations which were very vigorously pursued, e.g., like production of white lead, lead-pencils, glycerine from Indian oils, caffeine from waste products of Indian tea industries, electrolytic copper, sodium dichromate, essential oils and power alcohol. From 1920 onwards, a new line of investigation was pursued. The Government of Mysore requested G.J. Fowler to advise them on the possibilities of establishing a lac industry in the state and placed for his experimental work an area with 200 lac-bearing trees out of large lac plantation at

²² Annual Report of the Institute, 1916-20 quoted in Subbarayappa, pp. 93-95.

Dorasanipalya near Bannerghatta. The systematic work, both in the plantation and in the laboratory, for nearly three years resulted in the supply of more than 5,000 pounds of brood-lac to the Government of Mysore.

The Department of Electrical Technology was engaged in investigations of field-distortions in continuous current generators; sources of error in hot-wire measuring instruments of the platinum-iridium type; production of carbon-electrodes suitable for use in electrolytic processes; behaviour of a synchronous alternatives; phase transformation and phase balancing; properties of electrolytic condensers and the like. To undertake studies on the discrepancy between the calculated and the experimentally determined core losses in transformers, the Department tried to obtain special materials and equipment from England.²³

The forte of the Department was its effective training programmes, both teaching and practical. Practical training for students was arranged in several electrical engineering concerns at Shivasamndam near Mysore, Bombay and Calcutta. The trained students were in great demand for employment in various firms. During the war, the Department carried out certain tests on Indian timbers at the instance of the Indian Munitions Board. For the first time in the country, both instruction and research in Electrical Communication Engineering were started under the leadership of J.K. Catterson-Smith. Between 1925 and 1929, several

²³ Annual Report, 1914-15, p. 8, Subbarayappa, pp. 96-97.

investigations relating to wireless were taken up. In 1928, the name of the Wireless Laboratory of the Department was changed to Electrical Communication and Engineering Laboratory.

While applied investigations were making some headway, there was a growing general criticism, both inside and outside the Institute, that the Institute did not as yet have a definite research policy nor did it have a high level determinative direction of its own. More often than not, there were certain unpleasant situations and conflict of interests among the staff. The Departments of Chemistry were being reorganised from time to time. There was also a somewhat strained relation among the research students and the senior, staff-all but natural in the growing institution and in an environment of a marked duality of native students and foreign professors.²⁴ However, despite all these hiccups, the first twenty-five years (1909-1933) were undoubtedly a constructive period which the Institute projected as a viable standing of its own amidst the first five universities and twelve more universities which came up one after the other during this period. A striking feature was that a substantial number of research scholars of the Institute secured appointments in several industries, private firms and other research Institutes. Between 1929 and 1933, there was also a broadening of scientific investigations. This was due to a number of departments that came up in physics and chemistry.²⁵

²⁴ Ibid., p. 97.

²⁵ Ibid., pp. 97-98.

Review Committees and IISc (1909-1933)

After the establishment and putting the Institute on right track, Government felt necessary to have an appraisal of its programmes and policies at a regular interval. This necessitated the government to constitute two important committees, namely Pope and Sewell, between 1909 and 1933. The recommendations and the suggestions of the above committee had played an important role in the development of programmes & policies at IISc.

Pope Committee & IISc

The Government of India setup a special committee to examine the working of the Institute in November 1921. Sir William J. Pope (Professor of Chemistry, Cambridge University) was its chairman. The members being Sir Asutosh Mookerjee, Sir Henry H. Hayden and Prof. C.V. Raman. Alfred Hay was its Secretary. The committee, besides its own direct comprehension of the situation in the Institute over the preceding ten years, obtained statements from 44 persons, including three students as well as two assistants.²⁶ It reviewed the working of the Institute and submitted its Report (alongwith recommendations) within a month.

Pope Committee after a brief interaction with the members of the Institute at large, observed the following:

²⁶ Pope Committee Report, December 1921, pp. 2-3, TCA.

“ . . .it cannot be denied that the Institute has lost in efficiency by reason of the fact that its policy and lines of development have never been defined with sufficient precision. The Institute has also suffered in reputation by reason of the conditions and circumstances under which private work has been undertaken by some members of the staff, though in most cases in accordance with the terms of their respective engagements. It has been represented to us further that the relations between the professors and the students in the past have not always been as cordial as could be desired; . . .this circumstances also has injuriously affected the reputation of the Institute. Finally, some of the witness have commented adversely on the total absence of Indians from the superior staff of the Institute and have emphasised need for what has been described as Indianisation of the Institute”.²⁷

Pope Committee & curriculum

On the basis of the above-observed facts, the committee stressed that a vigorous teaching programme should be undertaken for entrants. The Pope Committee suggested some modifications for the existing departments and recommended new names for them. Department of Pure and Applied Chemistry, which was to composed of two sections: Section of Pure Chemistry (General and Mineral Chemistry; Organic Chemistry, and Physical Chemistry and Section of Applied Chemistry (Inorganic Chemical Technology; Organic Chemical Technology; Animal Physiological Chemistry; Vegetable Physiological Chemistry; and Fermentation Industries). Likewise, realising the importance of training in Mechanical

²⁷ Ibid., pp. 4, para 6.

Engineering, the Committee recommended that Mechanical Engineering should be added to the existing Electrical Technology Department and suggested that the modified department be named the Department of Applied Mechanics and Electrical Technology, having chairs in (i) Applied Mechanics, including water-power engineering; (ii) Thermodynamics and Heat engines; and (iii) Electrical Technology. It also urged the establishment of a new Department of General Physics, and suggested that the investigations in General physics should be complementary to those of the other departments. By this arrangement, the committee felt that, "departmental isolation" which, in the opinion of the committee, was "one of the main contributory obstacles to the progress of the Institute", would be removed. In addition to this, 12 chairs were proposed for the three departments, one of the professors in each department being its head for coordination and admission purposes.²⁸

It also asked that the nominations from different bodies involved in research and higher education might be ordered properly. In accordance with this, it proposed one nomination each from the Government of India, Scientific Department, Indian Legislative Council and the University of Calcutta and two member each from the state of Mysore, Tata family, universities of Bombay, Madras, Lahore, Allahabad, Banaras, Patna, Hyderabad, Dacca,

²⁸ Report of the Special Committee on the Indian Institute of Science, Bangalore, December 1921, pp. 1-18 (Pope Committee), Subbarayappa, p. 100.

Aligarh, Rangoon and Lucknow. It opined that the Head of the Institute should be named as the principal. His duties should be strictly in accordance with the vision of the Institute.

However, the Pope Committee was strongly against the private consultancy service by the staff of the Institute. The Institute in their opinion should have no claim to the profits from books, written by the members of staff, who should be the beneficiaries of such profits.²⁹ Among the other suggestions of the committee was construction of married quarters for students and formation of a gymkhana club to be aided liberally by the Institute. To monitor the progress of the Institute, the need for the appointment of a quinquennial reviewing committee by the visitor was also stressed by the Pope Committee.³⁰

However, both Government and the Tatas did not say anything pertaining to the changes in curriculum as suggested by the Pope Committee. Still, they had several reservations, as regards the terms of reference of the Pope Committee recommendations. Even the Council of the Institute raised some of the points, for instance, quarters for married students, a new post for the principal, etc in its meeting, just after the Pope Committee submitted its report. The Government raised serious doubts over the incurring expenses involved in the above exercise. Tatas brought into the notice that the committee had not at all touched

²⁹ Ibid., pp. 15.

³⁰ Ibid., pp. 15

the issue of the Department of History and Philosophy as suggested by the House, with the first director Travers. Thus, they felt an urgent need to appoint a review committee to look into these issues and several others afresh.

Sewell Committee and IISc

A reviewing committee formed again in 1930, headed by Lt. Col. R.B. Seymour Sewell, Director of the Zoological Survey of India. It had as its members H.G. Howard, Chief Engineer for Hydro-Electric Development, Madras and a noted physicist Meghnad Saha, F.F.C. Edmonds, Inspector of Schools, Mysore state and Coorg, was its Secretary. The Sewell Committee drew up its own agenda, unlike the Pope Committee. Several experts in different parts of India, including C.V. Raman, P.C. Ray, M. Visvesvaraya, S.S. Bhatnagar and L.L. Fermor, presented their views to the committee on several issues. Several staff members and the students made their observations before the Committee.³¹ The report of this committee was not only broad-based but also to be one having based upon the objective assessment of the events of the Institute.

Among the thirteen items in its agenda, was a new proposal by Dorab Tata that the Directorship be abolished as a whole-time post and that the main administration and the related duties of

³¹ Report of the Quinquennial Reviewing Committee of the Indian Institute of Science, Bangalore, 1931, containing 42 pages had finally been published in 1947. Also, quoted in Subbarayappa, pp. 103-104.

that office be discharged by the Heads of Departments in rotation. Dorab Tata had even worked out the financial saving by this arrangement and suggested that the routine work be carried out by a Registrar, who was to be appointed. Later on the Committee examined it in greater detail and generally felt that there was 'much to be said on either side in favour of both retention and abolition of the said post. The Committee was of the view that 'there must be some authority to maintain order and discipline among the staff and students, and to initiate and direct the scientific policy of the Institute.

Further, Sewell Committee also stressed the need for augmenting industrial investigations and also suggested that there should be an effective coordination between the researchers of the Institute and those working in other institutions in the related field. It advocated the need for the creation of the post of Registrar. It also maintained that the post of Director should be maintained with a salary of Rs. 3,000 per month. However, M.N. Saha, disagreed with the other members of the Committee with regard to the salary being given to Foreign Professors at the Institute, which, he was of the opinion, was too high when compared with the salaries being paid in the Indian universities for similar positions.³²

³² Ibid., pp.18-19, Subbarayappa, pp. 103-105 M.N. Saha added a courageous minute of dissent, stating that a salary of Rs. 2,000 per month plus Rs. 250 per month for the maintenance of the quarters, 'ought to suffice to attract scientific men of great eminence in this country to the post (of Director). The position then was that the Vice-Chancellors of Indian universities were being paid at most Rs. 2,000 per month plus Rs. 250 per month as home

Talking about other recommendations, as against Pope Committee, the Sewell Committee was strongly of the opinion that the private consultancy work to be undertaken by the staff of the Institute should be encouraged; with the condition that the Institute should receive half of the fees paid to the consultants. The committee also disagreed with the Pope Committee with regards to the construction of married quarters and felt that an undertaking of this nature was not justifiable on financial grounds. It also emphasised the need for closer cooperation between the Institute and various chambers of Commerce and Governmental Departments, including the Scientific Survey Departments.

In other recommendations, the committee expressed the desire to attract students from far and wide, so that regions other than Mysore, Madras & Bombay, may be brought into the fold of this Institute. The committee also delineated the procedure and certain guidelines for leave, fellowships and exchange of staff with British Universities. It also stressed the need of promoting teamwork in the solution of scientific problems. It further stressed the need of specialisation in chemistry and physics, based on the line taken up by Pope Committee.³³

allowance. Saha argued that the administrative task of Vice-Chancellor is not less than the Director in any respect.

³³ Ibid., p. 35, Subbarayappa, p. 110.

Sewell Committee & the Curriculum

During this period, there was a strange situation at the Institute. Three departments of Organic Chemistry, Bio-Chemistry and Electrical Technology were without professors for rather long periods. In such a situation, there ensued some unrest among the faculty and research scholars. Noting that the protracted procedure for the recruitment was at the core of the problem, the Sewell Committee suggested that the old concept of two Selection Committees in England and India be dispensed with, and that instead, all appointments, including those of the Director and Professors, be made by the Council on the recommendation of a Standing Selection Committee to be setup for a period of three years at a time. Similarly, it also stipulated certain guidelines for leaves, fellowships and exchange of staff with British Universities. The Committee emphasised more on teamwork, for the solution of any scientific problem.³⁴

As regards the department, considering the nomenclature "General Chemistry" a misnomer for the department, the Committee recommended that it be named the "Department of Physical and Inorganic Chemistry". More importantly, it recommended the addition to this Department of a section each for Metallurgy and high temperature studies, in view of possible developments in the industrial utilisation of vast mineral resources

³⁴ Report of the Quinquennial Reviewing Committee of the Indian Institute of Science, Bangalore, 1931 (Published in 1947), pp. 1-42 (Sewell Committee), Subbarayappa, pp. 107-108.

of India in the foreseeable future. The committee also recommended the setting up of a section of Pharmacology in the Department of Organic Chemistry, but in consultation with the Indian Research Fund Association (the forerunner of Indian Council of Medical Research). This new section was proposed to evolve its scientific programmes in collaboration with the Department of Biochemistry. In addition, the establishment of three more sections in the Department of Biochemistry was proposed: (i) Plant Physiology, in collaboration with the Pharmacological and other sections of the Department of Organic Chemistry; (ii) Microbiology and Fermentation; and (iii) Bacteriology.³⁵

The most fascinating aspect of the Sewell Report was its suggestion for the future expansion of the Department of Electrical Technology, which over the years had mainly confined its activities to a teaching programme of the standard equivalent to B.Sc. degree in Engineering of some of the British Universities. Though the department had been recognised by the state of Mysore and the Institution of Engineers (India) and the Institution of Electrical Engineers (London) in 1911, still, it was not working. The Committee asked the management to take effective steps to expedite the matter in this regard.³⁶

Both Pope and Sewell Committee made valuable suggestions for a purposeful expansion of the Department of Electrical

³⁵ Ibid., p. 108.

³⁶ Ibid., pp. 108-109.

Technology, on the lines of the National Physical Laboratory, Teddinton, England. Committees also stressed that if a Department of Applied Physics was established it would be able to carry out some of the desirable functions of a National Physical Laboratory. Further, the physicists would definitely give a new dimension to the researches on metallurgy, physical chemistry and the like. The Committee's unanimous opinion was that the proposed Applied Physics Department should be an independent one, under the charge of a Professor. It felt that 'if the work of the Department of Electrical Technology be continued along the lines suggested (wireless, refrigeration, glow-lamps, metallurgy, prime movers, pumps, windmills etc.), its activities. . . would meet an urgent industrial need, and would ultimately bring the work of the two departments, i.e. of Physics and Electrical Technology into line with that of the National Physical Laboratory in England. Moreover, the Committee foresaw no difficulty in obtaining an official recognition for the Institute as a standardisation and testing laboratory.³⁷

The recommendations of the two reviewing committees, though some of them were not acceptable to the council, did not fail to impress upon the Council and the staff the need for new thinking not only on future scientific investigations but also on the management of the Institute on a solid financial foundation. Both the committees had made important suggestions. One was that the

³⁷ Ibid.

Institute should adopt effective measures for mobilising additional resources through donations and endowments for the financial stability of the Institute. The founder had indeed a prophetic vision when he had proposed a Family Joint Trust to be associated with the Institute; for he knew that such an arrangement would be beneficial whenever the Institute faced a financial crisis. But the Government of India had spurred his offer. The founder's descendants too made no serious efforts to augment fund, for the Institute on their own; nor did the Council initiate any steps to secure benefaction from other philanthropic persons. It preferred to follow the path of dependence on the vagaries of Governmental contributions. This was also because of the fact that till M.O. Forster (i.e. 1932), the Institute was never under the directorship of non-Indian persons. The scene changed in 1933, when C.V. Raman got the directorship of IISc.

C.V. Raman & IISc

C.V. Raman was unanimously chosen as the Director of IISc., by two separate selection committees – one in England and the other in India. Raman accepted this appointment and joined the Institute on 1st April 1933 on a salary of Rs. 3,000 per month. He was full of verve and enthusiasm and had a determination to uplift the Institute to international heights. More importantly, he had a unique opportunity to establish a new Department of Physics, which was very close to his heart. As a physicist, at times he

preferred physics to the other disciplines, and others did not appreciate this in the Institute. Thus, though the first year of the Directorship was indeed smooth sailing, but the next three years became unhappily turbulent both for Raman and for the Institute. In this period, the Council of the Institute cooperated well with Raman.

Raman & His Style

Raman was a man of great brilliance with exceptional devotion and dedication to science. The life and science of Raman have been elegantly portrayed in the book 'Journey into Light' by G. Venkataraman. As an Assistant Accountant-General of Government of India, he devoted most of the time at the IACS of Mahendralal Sarkar in Calcutta. His interest in research and precisely in physics made him to quit the job and join the position of Palit Professor of Physics of the Calcutta University. He got the Nobel Prize in Physics in 1930, for his discovery of what came to be known as 'Raman Effect' made in 1928.

Like the first British Director, the first Indian Director too did not possess the much-needed administrative tact. He chose to live in his own world of ideas, often disregarding Heads of Departments and Council members. This led to disharmony between him, the Council and the Heads of Departments as well as some of the students. He was forced to resign on 1 June 1937, similar to that of the first Director of the Institute well before the end of his tenure.

During the four years of his Directorship, Raman earned for the Institute, especially for the physics department, international recognition of a high order. Soon after he became Director, he went about equipping the Department of Physics, since that was also his personal responsibility. In the very first year, as many as 35 different instruments, including spectrosopes, vernier microscopes, audio oscillators, microtonic and the like, were purchased. He initiated a colloquium programme (starting everyday at 7.30 a.m.) at which he himself delivered several lectures on various topics related to molecular structure, light scattering, optics, etc. He encouraged his students to give talks on various subjects, besides stimulating the other department to do likewise. And there was an energised scientific atmosphere in the Institute under his dynamic leadership.³⁸

Raman ceaselessly endeavoured to establish an Academy of Sciences at the all-India level. His concept of an Academy was as lofty as that of his approach to science itself, in its material and spiritual aspects alike. Delineating the scope and functions of the Academy which he proposed to setup, he wrote:

“The Academy should acquire the necessary authority to advise the Government, the universities and Institutes of all scientific matters and other problems referred to it for consideration and to negotiate on behalf of Indian scientific workers with similar institutions abroad.³⁹

³⁸ Annual Report of IISc, 1933-34, pp. 5-6, Subbarayappa, pp. 113-116.

³⁹ Editorial, *Current Science*, May 1933, TCA.

On these lines, he solicited the opinions of scientists from all over India. Finally an All-India Science Academy came into being in 1934. It eventually set up an "Academy Committee" which included Raman as a member. But due to sharp difference between the core members on various issues, Raman resigned and formed a separate academy known as 'the Indian Academy of Sciences, on 27 April 1934 at Bangalore. It had about 160 foundation Fellows, including himself. Through his efforts, this Academy got financial and moral supports from the Indian Institute of Science and the Government of Mysore. The Institute provided funds for the publication of journals and meeting expenses.⁴⁰

Raman's zeal for elevating the quality of research work at the Institute was so compelling that he thought of inviting distinguished foreign scientists to work at the Institute. On his suggestion, the Senate unanimously recommended that George de Heresy, and Max Born be appointed Readers in Chemistry and Theoretical physics respectively for a period of six months during 1934-35 on a fixed honorarium of Rs. 15,000 each for six months.⁴¹ This expenditure had been compensated from the savings amounting to Rs. 30,000 under salaries and retiring allowances of the higher teaching staff positions. The scientific activities and the publications of the physics department were far more in evidence than those of the other departments. During 1936-37 about 160

⁴⁰ Subbarayappa, pp. 117-118.

⁴¹ Council Minutes, 17 July 1934.

research memoirs aggregating to 1,400 printed pages were brought out by the physics department. In such a situation, human jealousies were but natural and they assumed different expressions some of them being in the nature of deliberate distortions.

Raman as the Head of Department of Physics attained the desired success. But as Director, he had to encounter stiff opposition because of his impulsive and somewhat inept handling of problems that cropped up at the council meetings and in the academic departments. Also, some of the members of the council did not display adequate maturity to overlook certain trivial issues; instead they took up issues with Raman as a matter of privilege. Thus, many a time the personal and non-scientific problems became important and passions ran high. To look into these matters, the Council appointed a Quinquennial Reviewing Committee under the Chairmanship of Sir James Irvine (Vice-Chancellor of the University of St. Andrews).⁴²

The general terms of reference of the Committee were:

“To review the making of the Institute with special reference to the purposes for which it was founded and, if any changes are considered desirable in the organisation or activities of the Institute for the better achievement of these purposes to make recommendations accordingly, but

⁴² Council Minutes, 23 July 1935, pp. 6. The other members were Dr. A.H. Mackenzie, Pro-Vice-Chancellor of the Osmania University and a former Director of Public Instruction of the United Provinces and Dr. Shanti Swarup Bhatnagar, Professor of Chemistry in the Punjab University at Lahore, F.F.C. Edwards, Inspector of Schools, Mysore and Coorg.

with due regard to the Institute's actual or reasonably augmentable financial resources".⁴³

Irvine Committee & IISc

The Irvine Committee held its first meeting at Bangalore on 24 February 1936 and submitted its report to the Government of India on 24th March 1936. There was a substantial difference between the general terms of reference of the Irvine Committee and those of the earlier Pope and Sewell Committee. The first two committees had not been asked to examine the scientific activities of the Institute in relation to the objectives for which it was founded. But the Irvine Committee's, special task was to consider whether 'the policy pursued was consistent with the wishes of the founder and of the contributing bodies'. It said that the aims and purpose of Institute should be defined in precise terms and should be placed beyond individual and fluctuating interpretations. In the absence of such definition, no continuous policy could be developed.⁴⁴

The committee further argued that the Institute should be concerned more with applied researches. It observed, therefore, that 'while research in pure science should continue to be an approved purpose, the major part of the resources of the Institute should be applied to the investigations, which are likely to be of direct benefit to the industry in India'. The Irvin Committee also

⁴³ Irvine Committee Report, pp. 1, also quoted in Subbarayappa, p. 130.

⁴⁴ Ibid., p. 304.

made the suggestion that institutions like the Industrial Intelligence and Research Bureau and the Imperial Council of Agricultural Research, and the State Departments of Industries might submit proposals to the Institute, instead of the staff of the Institute going in search of them. Apart from these, it recommended the creation of the post of Registrar, independent of the Department and looking into the matter of finances.

Raman & Irvine Committee

The Irvine Committee, however, appreciated the original investigations, which were carried out by C.V. Raman and his associates. It said that the Institute had made remarkable progress during the past five years and particularly after the appointment of the present Director. It filled a notable gap in the Department of Physics. This development was no doubt to be expected as a consequence of the appointment as Director of Sir C.V. Raman, a physicist of international reputation, known and honoured as much for his unremitting zeal for the brilliance of his scientific research.⁴⁵ Yet the committee appeared to have been obsessed with the idea of a “shift of the centre of gravity from chemistry to physics” during Raman’s presidentship. It observed that such a situation would not be in accordance with the policy of the Institute, “to promote the industrial welfare of India”. Modern Mathematical Physics, as emphasised by Raman, with its attractive fields of speculation and

⁴⁵ Irvine Committee Report pp. 10.

experiment, the Committee emphasised, 'has little direct contact with industry, and in this respect cannot compete with chemistry as a subject likely to be of service to India. Thus, on this notion, to balance the budget, the committee recommended the suspension of the above subject from the programme of the study of the Institute.⁴⁶ Apart from the above, the committee also suggested the reduction in pay scales, retrenchment of some staff members and the reduction of working grants to the departments. There had been mixed responses from the council members on these issues.

Taking clue from the Irvine Committee Report, a crucial meeting of the Council took place on 2 July, 1936. Raman submitted to the Council, a memorandum containing his own observations on the report. Meanwhile the opposition to Raman had been gathering momentum. Professor V. Subrahmanyam, P.C. Guha and Kenneth Aston had submitted three memoranda to the Council, making serious allegations against him. In the charged atmosphere that had enveloped the Institute then, any further mistake by Raman would have been detrimental to his directorship. He chose to correspond directly with the Government of India. He also corresponded with his friends, and well wishers in India and abroad. Finally, on June 1, 1937, after having a wide consultation with the people around, he sent his resignation to the extraordinary Council convened for this purpose only. The Viceroy accepted his

⁴⁶ Ibid., p. 10.

resignation and later appointed him as the Director and Head of the Department of Physics (IISc).

J.C. Ghosh & IISc

J.C. Ghosh took over the Directorship of the Institute following Raman's resignation. He, on the basis of the last three Committee Reports, tried to guide the Institute on proper path. He took stringent measures in the department of physics and chemistry, in the light of the suggestions from the Council members. But within two months of his assumption of office, the Second World War broke out – a catastrophic event otherwise, but in a way somewhat beneficial to the Institute.

In 1940s, the Indian Institute of science began to develop new directions. As Director of the Institute, J.C. Ghosh conceived of a planned development of the Institute, perhaps drawing inspiration from the National Planning Committee set up by the Indian National Congress in 1939 and its scientific sub-committee. In March 1940, the court of the Institute suggested that the Institute should (1) accord special prominence to industrial research without seriously dislocating the teaching as well as fundamental research; and (ii) extend the fullest cooperation to the newly created Board of Scientific and Industrial Research of the government of India.⁴⁷ Between 1941 and 1945, the Institute witnessed three main intertwining strands of research – internally

⁴⁷ Annual Report 1940-41, pp. 10-11.

planned investigations, projects sponsored by the Board of Scientific and Industrial Research, and those related to the war situation. In effect, the Institute was set on a course of carefully planning expansion.⁴⁸ In the meantime, the Institute developed many more branches, keeping in mind the wartime needs of the British Government.

IISc & IInd World War

During the Second World War, the Institute was required to extend its helping hand to the allied defence efforts. The scientific and technical work undertaken by the Institute for this purpose consisted mainly of testing and production of certain chemicals, besides training a considerable number of technicians. A plant for the manufacture of potassium chlorate was set up in the premises of a private chemical company of Mettur. Another plant for the production of potassium permanganate was made at Mysore Chemicals and Fertilizers at Belagola. Yet another plant was established for the Mysore Government, for large-scale production of malt to meet army orders. The Institute made arrangements for the production of 3,600 lb of liquid calciferol to meet Vitamin D requirements of the army. In addition, 2,000 lb of p-nitro-phenyl-azo-B-naphthylamine dye as well as fairly large quantity of depolymerised shellac was supplied to the Government of India.⁴⁹

⁴⁸ Ibid., pp. 7-8.

⁴⁹ Subbarayappa, pp. 173-174.

To cope up with the demands of the Royal Air Force, large quantities of carbon-composition resistor and vitreous-enamelled resistors were manufactured at the Institute and supplied. A continuing facility was also established at the Institute for repair, testing and calibration of electrical and radio instruments as well as repair of mechanical appliances for the Royal Air Force and other fighting services. All the insulators that were required by the supply Department of Madras Circle were tested at the Institute and certified before they were purchased. At the request of the Air Head-quarters, a production unit was setup in the premises of the Institute itself, for the manufacture of hydrogen on a large scale. A separate building was constructed for this purpose and it was so designed that it could be converted into a laboratory for applied physical chemistry at the end of the war. The plant was capable of producing 20,000 cft. of hydrogen gas per month and was set up under a contract with the Government of India.⁵⁰

The case of IISc has been discussed at length. This is precisely keeping in mind that IISc was considered a 'mother institution' for technical, scientific and industrial education in India. During these years, however, the turn of events at IISc and several other demands and the exigencies drove the House to open few specialised institutions. These institutions, for instance, Jamshedpur Technical Institute, Tata Institute of Fundamental Research, Tata Institute of Social Science, Tata Cancer Hospital,

⁵⁰ (Ibid., pp. 174.

played vital and significant role, in shaping the contours of technical, scientific, industrial as well as medical education and community development programmes in India. Thus, it is necessary here to discuss in detail, to highlight the role of the House in this regard.

Jamshedpur Technical Institute

Jamshedpur Technical Institute opened at the Tata Steel works in Jamshedpur in 1921, offers further evidence of the Tatas interest in technical education. It also helps in interpreting official, educational and industrial policies in pre-independent India. TISCO helped the allied forces, by providing its services during the First World War. Soon after the war, Tatas felt the need to increase the production by five fold, which required the services of technically qualified and experienced steel men. The Tata Management found it hard to import the required number of men necessary to serve the purpose. Due to the war, the cost of importing these people and maintaining them at Sakchi increased manifold. This necessitated the company officials to propose the establishment of a Technical Institute at Sakchi, sponsored by the Government. This, they thought, would reduce the cost of different industries located in India and may also help in Indianisation of the work force. Padshah, while making this plea, had the experiences of IISc in mind and he was also aware of the general nature of the Institute at Bangalore.

Keeping the above factors in mind, Tatas proposed to the Government of India, to establish the same. Padshah and Tatas were not alone among the Indian leaders familiar with the increasing role of science in industry. Numerous Indian recommendations to establish Central Technological Institute had been made before 1916. The increasing difficulty of importing scientific and technical advisors, and of sending Indian scholars abroad for advanced training and works experience was being exacerbated by wartime conditions. While industry related scientific research and training had started in government and private institutions, and at the Tata-sponsored Indian institute of Science long before the war, but these efforts were limited and unsuited to the growing demand for technical leadership in Indian industries. Moreover, Tatas were not happy with the turn of events at IISc.⁵¹

Neighbouring States and JTI

Stimulated by Tatas negotiations with the Sibpur Engineering College to provide engineering training for TISCO employees in the neighbouring province of Bengal, the Bihar and Orissa Government offered to collaborate in the establishment of a technical school at Sakchi for training foremen and supervising personnel.⁵² Following

⁵¹ Kim P. Sebaly; Tata Steel and Higher Technical Education in India: The Padshah Plan, 1916-21, *History of Education*, 1988, Vol. 17, No. 4, p. 312. (hereafter Sebaly).

⁵² Tata and Sons Company Records, 'B.J. Padshah Collection', Notes on Mr. Padshah's tour to Calcutta and Sakchi, 27 October 1916, TCA.

the provincial Government's formal offer to TISCO in October 1916, Mr. F. Walford, Inspector of technical school in the province and principal of the Bihar School of Engineering in Patna, outlined two-year diploma courses, one in mechanical and electrical engineering and another in metallurgical engineering.⁵³ The two years courses were to be followed by one years of practical training at the Tata Works. Admissions to the school were to be based on six months of practical experience or successful completion of an intermediate science examination of Indian Universities. Walford's plan called for a recurring expenditure of almost Rs. 1 lakh and a capital expenditure of Rs. 4 lakhs. There had been both criticism as well as praise of the above plan. Padshah, however, outlined the potential for 'an imperial technological institute at Sakchi'. In a letter to T.W. Tutwiler, Padshah emphasised the suitability of Sakchi, for the establishment such an institution. He writes that Sakchi as a place is rich in mineral, manpower and also a number of industries are located around it. This may cater to the employment needs of the trained manpower of the institute.⁵⁴

Padshah informed to the House regarding the worldwide shortage of manpower due to the World War. His letter was forwarded to the Indian Industrial Commission. He requested the commission to issue an interim report on the effects of international shortage of skilled labour, raw material and deficient

⁵³ Government of Bihar and Orissa Records, Education Department, April 16-27 - XE-8 of 1919, Part-A, Sebaly, p. 312.

⁵⁴ Padshah Collection, 'B.J. Padshah to T.W. Tutwiler' (26 June 1917) TCA.

land and water as well as transportation system, on Indian industry.⁵⁵ The directors of the Tata & Sons were informed in early 1918 that the Industrial Commission would recommend a 'large comprehensive national institute for research in metallurgical and other applied sciences' be established, and that the steel company's proposal might, therefore, be kept pending. However, the Board of Tata Steel unanimously agreed that a start should be made on the smaller Walford plan with the hope that it might eventually be merged with Padshah's larger scheme.⁵⁶ The committee also urged the government to look into the Padshah plan and its suitability in the Indian condition. Later Padshah also requested to the colonial government of India to help and provide imperial status to the said institution, as it may provide a nursery for training the Indian minds, which would reduce the expenditure of the industries considerably.⁵⁷

Government & Padshah Plan

The Government of India formally notified TISCO on 3rd September 1920, that owing to the shift in authority for industry and technical education, they were no longer in a position to decide whether any central institute would be necessary.⁵⁸ However,

⁵⁵ Padshah Collection, 'B.J. Padshah to Indian Industrial Commission' (27 August 1917), pp. 2-3, TCA.

⁵⁶ Padshah Collection, 'Extracts from the minutes of the meeting of the Board of Directors held at Navasari Buildings (31 January 1918), TCA.

⁵⁷ Padshah Collection, 'Padshah to H. Gibbs' (16 July 1918), TCA.

⁵⁸ Montegu-Chelmsford reforms in December 1919, effectively terminated the Central governments consideration of imperial education and industrial

TISCO announced that it would proceed with its own scheme for a technical institute, and asked the officials whether the 1917 Bihar and Orissa pledge to contribute a share of capital and recurring costs still held. TISCO informed the Provincial Government that the new institute would be attached to their technical school in the hope that the two institutions might some day form the nucleus of central imperial technological institute. Bihar and Orissa Committee for transferred subjects considered TISCO's announcement at its meeting on 20th April 1921 and quickly informed that they would support the scheme in accordance with the Walford plan.⁵⁹

JTI & its Curriculum

As proposed in the Walford plan, the curriculum included two-year course, which would focus on the metallurgy of iron and steel. A turnout of 20 students per year was expected. The B.Sc. or its equivalent would be the standard of admission. The programme, would sandwich 22 weeks of practical work in various TISCO mills between the two terms of classes. Students would be expected to give five years of service to TISCO on completion of their course. Three European Professors would be hired, along with two industrial assistants in metallurgy. Scholarships for study in Great

schemes, Department of Commerce & Industry, Board of Industries and Munitions, Technical Education, Proceedings, 1-7 (October 1920), 'proposed establishment of an imperial technological institute at Jamshedpur, NAI.

⁵⁹ Government of Bihar and Orissa Records, Education Deptt. (May 1921), 'M.G. Hallet letter to Messrs. TISCO, Jamshedpur' (2nd May 1921), Sebaly, p. 319.

Britain and the United States would be provided to three students per year. TISCO also agreed to reserve one third of its vacancies for 'native boys of Bihar and Orissa and reported that it planned to open the institute in October 1921'. Draft agreements for recurring the capital grants were signed in March and April 1921 respectively. Fifty students were enrolled in November 1921.⁶⁰

Usefulness of the Institute

Although Padshah's proposal for a comprehensive imperial technical institute had been rejected, his efforts did not go in vain. The Jamshedpur Technical Institute finally came into existence in 1921, with the assistance of Tatas, Bihar and Orissa Government. The Jamshedpur Institute did help in laying the foundation for the Indianisation of TISCO. By the time J. Gandy became TISCO's first Indian general manager in 1937, all European and American experts had been replaced by Indians, many of whom, who had received their initial training in metallurgy at the Institute and in American and British Institutions with the support of TISCO scholarships. Provincial support for higher technical education and industrial research had also begun to emerge throughout India after 1921, piecemeal and generally at lower levels than that which had been outlined by Padshah and Tata officials.⁶¹ Jamshedpur Technical Institute helped the industries of Bihar, Bengal, Orissa,

⁶⁰ Government of Bihar and Orissa Records. Education Department (May 1922), 'Tata and Sons Ltd. letter to Secretary Government of Bihar & Orissa, Ministry of Education' (23 May 1921), quoted in Sebaly p. 319.

⁶¹ Sebaly, pp. 319-320.

by providing technical experts and expertise. This institute also helped in supervising and establishing a number of institutions in India after its foundation. Some of these included, College of Technology, Banaras Hindu University (1921); Department of Applied Physics, Calcutta University (1925); Department of Chemical Technology, University of Bombay (1934); and several other institutions.

Tata Institute of Fundamental Research

The event that led to the establishment of the Tata Institute of Fundamental Research is remarkable. Dr. Homi Bhabha a promising Cambridge Physicist returned home to India on a vacation. The war prevented him from going back to his post. A pioneer in the study of Cosmic Rays had been invited to give a series of lectures at the Indian Institute of Science, Bangalore. Impressed by his lectures and knowledge on the subject, the Director appealed to the Trust for financing a department for Cosmic Ray investigation at the Institute under the guidance of Dr. Bhabha. The Trust preferred a more modest approach and, as a beginning made a grant enabling Dr. Bhabha to Bangalore for six months. During these short months Bhabha was able to predict and establish the existence of the fundamental particles of nature; this important discovery enhanced considerably the reputation of

the Institute as a centre of fundamental research. This gave an encouragement to Bhabha and a greater hope to the Institute.⁶²

Excited with this success, the Trust and the Institute, now decided to establish a Cosmic Ray Laboratory. Bhabha had been offered the post of Professor in this research with tempting offers from universities in America and England and other Indian Universities, he still preferred to work at the Institute, where he hoped to collect a band of devoted workers and by example and precept build up a school of research which, knowledgeable persons felt, would have the greatest importance for scientific development in the country within the course of few years.⁶³

However, it became increasingly clear that fundamental research in physics and mathematics which included nuclear physics and cosmic rays, was too big a subject to get adequate treatment in a department of the Institute. It required for its proper and effective prosecution, under an Institute devoted solely to this end. Bhabha himself was convinced that India needed at the moment a vigorous school of research in Fundamental Physics. Competent workers were scattered all over India, severely handicapped by the lack of facilities, who would be an asset to the country, if brought together in one place under proper direction. Such a school would form the spearhead of research, producing a sufficient number of outstanding pure research workers who would

⁶² Papers relating to the History of the Tata Institute of Fundamental Research, Box No. 87, p. 31, TCA.

⁶³ Ibid., pp. 30-31.

set the standards at all levels of work and act as advisors on the boards directing scientific development throughout the country. They would also be help in tackling problems of immediate practical application in industry.⁶⁴

At this juncture Bhabha received the full support of Prof. A.V. Hill Nobel Laureate and Junior Secretary of the Royal Society, who had visited India and was conversant with the problem that faced the country. An eminent scientist, he himself had a great and intimate knowledge of the organisation of science and scientific institutions in England. He repeatedly stressed the fact that all research has in the beginning to be built round a suitable man and that much of the scientific work in England was first built up round individuals. He praised Bhabha and his vision in this regard.⁶⁵

Both, the Chairman of Tatas and the Director of the Trust felt that this research project was worthy of Trust's support. On his note to the Trustees the Director strongly recommended the proposal:

"A further reason for advocating full support to Dr. Bhabha's scheme lies in the pioneer character of the undertaking. The Trust has always stood for pioneer work. It undertook a project in the field of Social Sciences in 1936, it completed and established a much larger project in the medical sphere in 1941, and in 1944 it may well enter upon a modest project in the

⁶⁴ Ibid., p. 2.

⁶⁵ A.V. Hill to H.J. Bhabha, TIFR History papers, p. 3, TCA.

field of Pure Science. It is important that the Trust should maintain its character for pioneer work".⁶⁶

Maintaining the above spirit, on 14th April 1944, the Trustees decided to accept responsibility for launching an institution along the lines proposed by Dr. Bhabha; but they were of the opinion that his responsibility should be shared from the outset with the Government of Bombay. As the Director of Public Instruction, Bombay was keen on creating a special chair and a Department of Physics at the Royal Institution of Science for Dr. Bhabha. It was suggested that the required finances for this could be more effectively used if Government co-operated with the Trust in a joint venture. The Bombay Government accepted the proposal and this was a decisive factor in locating the Institute in Bombay. It is worthy of note that the Trust took this decision early in 1944, more than a year before nuclear physics became notorious through the explosion of the atomic bomb on Hiroshima and subsequently captured popular imagination.⁶⁷

Apart from the Tata Trust and the Government of Bombay, the Council of Scientific and Industrial Research established a close co-operation with the Institute and has been one of its consistent supporters; in 1947 it was given representation on the Council of the Institute. The CSIR appointed the Atomic Research Committee in 1946. Foreseeing India's need for trained personnel in atomic

⁶⁶ DTT/PHIL/MIS/3, Box No. 87, p. 3, TCA.

⁶⁷ Ibid., p.4

research, the committee gave a special grant to the Institute in 1947-48 for training a team of scientists in the general techniques of nuclear physics. Later when the Atomic Energy Commission of the Government of India was established in 1948, the Institute had already collected and built up a small group of specialised personnel. It was therefore natural that the commission should turn to the Institute for carrying out its own project and for training further personnel for it. This co-operation had steadily grown and around 1950s, it had a large group of young physicists, most of who work at the Institute.⁶⁸

On its growth, Tata Trusts, Government of Bombay, CSIR & Atomic Energy Commission played decisive role. Over the year, it had been supplied the latest technology, by these agencies. From its inception, it had made notable contributions to the theory of elementary particle. Its nuclear emulsion group for the study of new elementary particles has made outstanding contributions. The Institute has set new standards in the field of scientific publications in India. Around 1950s, with special donations from the Trust the Institute had started a series of International Monographs on Mathematics and Physics and later also published a facsimile edition of Ramanujan's original in mathematics.⁶⁹

As far back as December 1950, the Institute marking an important stage in the progress of scientific research in India

⁶⁸ Ibid., pp. 4-5.

⁶⁹ DTT/PHIL/MIS/3, pp. 4-7.

organised the International Conference on Elementary Particles. Many distinguished nuclear physicists from abroad attended the proceedings in Bombay. The Conference was held under the patronage of the International Union of Pure and Applied Physics; UNESCO and the Trust supported it with the necessary finances. Professor P.M.S. Blackett, a US Nuclear Scientist stressed the importance of Pure research and said that scientists are not merely amusing themselves with such “useless” things as elementary particles. History had shown that the pursuit of pure science was an integral part of the pursuit of applied science and the two could not be divorced from each other. Ending on a personal note, however, he said:

“I must say that in my experience I have never attended a conference which was both interesting scientifically and so well organised and in such a beautiful place. Actually, I have found this conference exceptionally valuable to me”.⁷⁰

Thus, in a span of around 10 years or so TIFR had achieved a lot. Apart from the Government of Bombay, Tata Trust played vital and decisive role in supporting the cause of the Institute. The scientific and technical expertise, developed at the centre, made it an important centre for nuclear research in independent India. Moreover, it was not all. Tatas also helped a number of institutions in the period in several ways to achieve the same. For instance, the

⁷⁰ TIFR History Papers, Box No. 87, p. 25, TCA.

House donated Rs. 2 lakhs, for building a new Pathological and Bacteriological Laboratory at Grants Medical College, Bombay.⁷¹ This confirms that the Tatas tried to promote the cause of techno-scientific facets of education in the best possible manner.

Thus, in a span of around 50 years before independence, the House of Tata ceaselessly endeavoured to achieve success, in the area in which J.N. Tata made a leap. A number of Trusts had been created to serve the above purpose. The first and the foremost Institution, supported by the Tata was the Indian Institute of Science. This Institute was formed in 1909, and became operational in 1911. But the limited scope and the general character of Institute prohibited the House to undertake the specialised activities under its fold. As a result of which, a number of specialised institutes like Jamshedpur Technical Institute, Tata Institute of Social Sciences, Tata Cancer Hospital, Tata Institute of Fundamental Research etc. came into existence. Jamshedpur Technical Institute was primarily established in 1921, to cater to the needs of the technical manpower in Tata Iron and Steel Company and other Industrial centres of India. Tata Institute of Fundamental Research developed in 1944, became the cradle of nuclear energy in India. Ratan, Dorab, JRD, Padshah and other member of the House, always encouraged and supported these

⁷¹ Public Accounts Committee Report; DTT/PHIL/DON/1, Box No. 87, TCA.

efforts with every means. The petty issues at IISc and the lukewarm response from the Government circle never deterred them. The experiments and the research, in these institutes, always helped in achieving the desired result, for which the institutes had been opened. The technical, scientific and industrial education, as envisioned by JN Tata, achieved a certain height during this period, the height from which independent India could proudly move.

CHAPTER - IV

OPENING SOCIAL FRONTIERS: TATA INSTITUTE OF SOCIAL SCIENCES AND THE TATAS

Background:

Ever since Tata started the educational plans, the House gave sufficient weightage, in its planning to society and social issues. J.N. Tata considered the wealth to be the product of society. Thus in his vision of world, "society and the social issues figured prominently. The various Trusts and later Tata Institute of Social Science was developed to fulfil the vision of pioneer. This chapter is an attempt to see the efforts of the House in taking up the social issues particularly society and social science education before Independence.

Trusts and the Humanitarian Aids

The House of Tata has to its credit, a proud record of industrial achievement. The mighty steel and iron works at Jamshedpur, cotton mills, hydro-electric power, cement, oil mills, chemicals, civil aviation are but a few of the activities testifying to the vision of Jamshetji Tata and the business acumen of his successors. Apart from the business enterprise, this House has also made notable contributions to society and education, which could be studied within the fold of its nation-building activities. Starting from the famous scholarship scheme in 1892, it helped the

nation in the task of institution building by making contributions to IISc., TISS, TIFR, Cancer Research and several other such areas vital for India. In doing so, the House never followed the sectarian line. Its philanthropic philosophy can be seen in the following lines:

“There is one kind of charity common enough among us and which is certainly a good thing, though I do not think it is the best thing that we can have. It is that patchwork philanthropy which clothes the ragged, feeds the poor, and heals the sick and halt. I am far from decrying the noble spirit which seeks to help a poor or suffering fellow being. But charities of the hospital and poor-asylum kind are now comparatively common and fashionable among us. . . what advanced a nation or community is not so much to prop up its weakest and most helpless members as to lift up the best and most gifted so as to make them of the greatest service to the country.¹

It was this philosophy which prompted J.N. Tata to start his famous scholarship scheme in 1892. However, he soon became aware of the fact that these foreign trained scholars would never be adequate to meet the research needs of Indian industry. His original plans called for the establishment of an Indian university – a scheme accepted by the Government of India as early as 1899. I have taken up the subject in detail in Chapter II and III of this dissertation. Moreover, it was in 1911, seven years after Mr. Tata’s death and only through the persistent efforts of his sons, that his ideas came to fruition in the shape of the Indian Institute of Science

¹ Clifford Manshardt, *Pioneering on Social frontiers in India: Education and Philanthropy*, TISS Series No. 17, p. 76.

at Bangalore. The Indian Institute of Science through its departments of chemistry, bio-chemistry, physics and electro-technology has made notable contributions, both to Indian industries and to research in pure-science.²

Ratan, Dorab and JN's Philanthropy:

Jamshetji Tata's sons Ratan and Dorab shared the humanitarian interests of their father. Before his death in 1918, Sir Ratan had founded a Chair in the London School of Economics for research into the causes of destitution and poverty. He followed his father's lead in sending students abroad for higher studies, and was interested in blind relief and scientific treatment of tuberculosis. Sir Ratan was particularly interested in the problem of poverty among the Parsees. Upon his death, the trustees of the Sir Ratan Tata charities, under the able leadership of Lady Ratan Tata assured the administration of large trust fund endowed by Sir Ratan. The trust has contributed liberally to social, medical and educational causes, on non-communal lines, both in India and abroad.³

Sir Dorab Tata, the surviving brother, was well-known throughout India for his widespread benefactions. Lady Dorab Tata was not only a prominent figure in the social life of both India and England but equally known for her active interest in social welfare in the women's movement. Lady Tata has been very active

² Ibid., p. 77.

³ Ibid.

during the riot of 1929. She came down to the neighbourhood House to see what she could do for the families who might be suffering from the riots.⁴

When Lady Tata died from leukaemia, Sir Dorab created a trust fund in her memory in 1932, known as Lady Tata Memorial fund. One fifth of the net income of the fund was designed as an annual award to an Indian scientist working in any part of the world, who presented a suitable thesis bearing on some phase of the alleviation of human suffering. The remainder of the net annual income was set aside for research in disease of blood, with special reference to leukaemia. Prizes, scholarships and fellowships in this field have been awarded to the scientists working in different parts of the world.⁵

Shortly before his death in 1932, Sir Dorabji created the Sir Dorabji Tata Trust providing for the continuance of his benefactions, for the relief of distress particularly that occasioned by disasters due to natural causes – and for the encouragement of education and research – especially in medical, scientific and industrial subjects.

The original capital of the Tatas, acquired through trade, was invested in the pioneering of industry. From the profits of industry, Jamshetji Tata and his sons endowed great philanthropic trusts, until eventually the Tata Trusts came to own over three-fourth of

⁴ Tata Institute of Social Science (hereafter TISS), Fire Proof Box No. 87, pp. 2-4, TCA.

⁵ Ibid., also quoted in Manshardt, p. 78.

Tata sons Limited, which meant that over three-fourths of the profits of the Tatas was earmarked for the benefit of the people of India.

Blueprint and the Idea of Social Science Institute

The Dorabji Tata Trust had for its first Advisor and Director, Dr. Clifford Manshardt, who originally came out to India as a Christian sociologist and a missionary. He had sympathy for the country's political aspirations and a desire to understand its social needs and problems. A sociologist with a vision ahead of his day, he founded the Nagpada Neighbourhood House, a community centre in a congested locality in the heart of Bombay, where he was looking after varied human needs.⁶

Manshardt and the Vision of TISS:

Manshardt was in America when Dorab Tata died and the same year before his death Dorabji established the trust in his name. For a long time, Manshardt had been hoping to carry out several projects of social research in Bombay, and since Sir Dorabji had been a contributor to the Neighbourhood House, he decided to approach his trustees for the support of these projects.⁷

He approached S.D. Saklatvala in this connection. Mr. Saklatvala said that though he had great respect for the work which he had been doing but the trustees were not yet in a position to

⁶ Dorab Tata Trust Papers (hereafter DTT), Box No. 87, p. 1, TCA.

⁷ Manshardt, p. 78.

make grants, because the policy of the Trust had not yet been formulated. He asked and requested Manshardt to study the general trust situation and make policy recommendations. He agreed to the proposal and started preliminary investigations in this regard. As the trust policy had not been clear, people used to send letters related to their day to day difficulties. However, Manshardt realised their importance in the following words;

“It is obvious that such letters, though entertaining, were not of vital importance to the welfare of India, and most of its early lot found its way into the newspaper basket. But as a result of my study I was able to outline what I believed should be the guiding principles of a trust of this magnitude and submitted my recommendations to the Trustees”.⁸

It was during this period that he became acquainted with Sir Nowroji Saklatvala, C.I.E., the Chairman of Tata Sons Limited; and also of the Sir Dorabji Tata Trust – an acquaintanceship which ripened into a genuine friendship. Sir Nowroji requested him to take the additional responsibility of advisorship. In the meantime the American Marathi Mission had permitted him to undertake this additional responsibility. Thus, he became an advisor to Sir Dorabji Trust while continuing as Director of the Nagpada Neighbourhood House.⁹

⁸ Papers relating to History of TISS, also quoted in Manshardt, p. 79.

⁹ Ibid., p. 6, TCA.

Philosophy of the Trust

In these years, he helped in formulating the rules and regulations for the Trust. The chief interest of the Trust was to encourage nation-building activities and experiments which offered promise of contributing to the national welfare. Although it did assist a few organisations engaged in ameliorative work, but its major activity was in the field of prevention. It did not grant doles to individuals, and only in rare instances did it give money for buildings. The general theory was that a Trust stands in a different relationship to the community than does the individual giver. The individual giver is touched by human need, and influenced by the demands of the moment. The trust, as an institution, can be more objective and can view problem in their perspective. Its goal can never be individual centric. However, it can supplement individual giving by pioneering services, the worth of which are not yet apparent to the community, or by undertaking projects which may be too expensive for the individual giver or which must be carried on over a long period of time. Since the Trust need not be interested in immediate returns, it can support projects, which though essential, may not at the moment be popular.¹⁰

There were few aspects of public life in India which did not benefit from the Sir Dorabji Trust. Progressive education, public health and rural reconstruction, all received generous support. In

¹⁰ Philosophy of Dorabji Tata Trust/Miscellaneous Series/3, Box No. 87 pp. 12-13, TCA.

times of national calamity such as the Quetta earthquake, the floods, the Trust in accordance with the wishes of its founder, sent immediate financial assistance.¹¹

By the terms of the Trust deed the Sir Dorabji Tata Trust was permitted to send Indian students abroad for further study. However, the advisor and later the first Director of the Trust, Dr. Manshardt had the following plans in his mind:

“My own feeling was that foreign study, at least with Trust assistance should be limited to those who had already proved themselves in India. If, after having exhausted the faculties for training in India, and if after having worked in a given field for a period of time, it appeared that the individual and the country would profit from further specialisation, then it seemed to me to be a legitimate case for ‘Trust Consideration’. Exceptions would be in those fields for which adequate training facilities did not yet exist in India.”¹²

Two years of experience in the Trust convinced Dr. Manshardt that the type of applications which the Trust had been receiving were not in keeping with the importance of the Trust, and hence he raised this issue with the advisory committee members whether it might not be advisable for the Trust itself to initiate one or two major projects. After careful consideration, the Trustees requested him to study the situation further, and to present a list of projects which he felt to be of genuine importance to the national welfare.

¹¹ Ibid., pp. 12-13.

¹² DTT/PHIL/MIS/3, TCA. (Letter by Manshardt to Saklatvala, C.I.E. of Sir Dorabji Tata Trust (October 5, 1932).

He drew up such list, and from it the Trustees selected three projects for further study.¹³

The first project that the Trustees discussed was a teachers training college for women. There was definite shortage of trained women teachers in the Bombay Presidency and there was no subject which was of more importance to the future welfare of India than the education of girls and women. Sir Dorabji and Lady Tata had a beautiful estate in Poona, which they felt would lend itself very well to a Teacher Training College for women. The Trust was willing to lease the estate to Government for this purpose and Manshardt himself went over to Poona to discuss the matter with the proper authorities. The official-in-charge, and Englishman nearing the retiring age made very short work of the whole proposal by saying that he did not require any advice on the educational needs of the Presidency 'from a Professional American Philanthropist'. With this the major projects were narrowed down to two: a Radium institute for the treatment of Cancer and a Graduate School of social work.¹⁴

The Tata Memorial Hospital and the Tatas

The suggestion of Radium Institute was not entirely new to the Trustees, for during Sir Dorabji's life time, he had been approached by one of the Governors of Bombay, for assistance in securing a certain quantity of radium for its use in the Government

¹³ DTT/Planning, 1932-33, Box No. 88, p. 16, TCA.

¹⁴ Ibid., Box No. 89, TCA, also quoted in Manshardt, p. 81.

hospital. Sir Dorabji told His Excellency that he would give the matter full consideration, but pointed out that his experience in cooperating with Government had not been an entirely happy one. Since one of Sir Dorabji's advisor was then in Europe, he requested this advisor to make a study of the use of radium in cancer treatment, but the subsequent illness of Sir Dorabji prevented any action being taken in the matter. The current proposal before the trustees was new, in that, it envisaged a Radium Institute being set up entirely under the auspices of the Trust.¹⁵

However, in the current proposal, Trustees directed inquiries to all the leading cancer centres in the world, and eventually produced a preliminary report on the project. The Managing Trustee of the Trust at that time was Mr. J.D. Ghandy – a man over seventy years of age, but with a mind as active as that of a man of forty. Mr. Ghandy was keenly interested in the subject of cancer. A true patriot and the lieutenant of JN and Dorabji Tata he even went against the advice of a group of doctors from Bombay, when they said that 'it is difficult in India'. He guided and inspired the people involved with the project. As a result, the project saw the light of the day.¹⁶

As originally visualised, the Radium Institute was on a modest scale, but as plans matured and developed, the conception expanded until it was finally decided to build and equip a

¹⁵ DTT/Radium Institute Papers. Also quoted in Manshardt, p. 81.

¹⁶ DTT/PHIL/MIS/3, Box No. 87, TCA, Manshardt, pp. 81-82.

completely modern Cancer Hospital in the city of Bombay, using the standard treatment agents of surgery, x-rays, and radium, and supplement the treatment programme by programmes of research and education.¹⁷

An undertaking of the magnitude of the Tata Memorial Hospital would have been difficult in any country, but to rear an institution of this nature in the face of the limitations under which the city of Bombay had been placed in, required imagination, energy, patience, pertinacity and courage. It was a matter of deep regret that the chairman of the Trust Sir Nowroji Saklatvala, under whose leadership the hospital plans were developed, did not live to see the scheme brought to fruition. With the sudden death of Sir Nowroji, the Trustees naturally found business readjustments more demanding than the affairs of the hospital project for a time, and it was with the greatest difficulty that its momentum was restored. But finally, after many delays, caused in no small part by the outbreak of the World War II, the hospital was completed and formally opened by the Governor of Bombay, on March 1, 1941.¹⁸

In declaring the Tata Memorial Hospital open, Sir Roger Lumley designated the occasion as one of the prime importance because it was India's first large contribution to the international fight against cancer. He declared that he was deeply impressed, both by the greatness of the conception and by the care and

¹⁷ DTT/Progress Report of the Institute, Box No. 93, TCA.

¹⁸ Ibid., pp. 18-19.

patience with which it had been worked out. There had been no tinkering with the problem, and although the hospital was one of the best-equipped in the world, the trustees had been equally conscious of the necessity of a competent and qualified staff, and had pursued that objective most carefully. In this the opening address, the Governor of Bombay expressed his feelings in the following words;

“This hospital will become the spearhead of the attack on Cancer in this country, providing not only a centre where specialised treatment can be given, but also one from which the knowledge of new methods of treatment and diagnosis will go out to doctors and hospitals throughout the country”.¹⁹

The second major project adopted by the Trustees of the Sir Dorabji Trust was the establishment of a Graduate School of Social Work. Social Work, upto that time, in India, had been in large measure a matter of apprentice training. The young social worker learned from being associated with an older worker or even more commonly by engaging in work and acquiring a technique and proficiency through experience. Such organised training efforts as were being carried out, were basically for the short causes of rather a simple nature.

The movement for organised training was most prominent in the city of Bombay. For a number of years, a social training centre for women was conducted by a Joint Missionary Committee, in close

¹⁹ Times of India, 2 March 1941.

association with the university settlement for women. Since the entrance qualification was in the main a working knowledge of English, the instruction was of necessity somewhat elementary. The social science league of Bombay offered a series of lectures on social subjects during each monsoon season. Admission was open to anyone who understood English. The major value of the course was that it introduced its students to the various social work activities being carried on in the city, for instance, the Children's Aid Society of Bombay associated with the Juvenile Court, sponsored lectures and study groups for the benefit of its voluntary probation staff.²⁰

Background to TISS

The need for a social work institute was based upon the problems of grave nature. Between the two World Wars, indiscriminate industrialisation, population increase and pressure on land bled several villages of human material. The city swelled. Tin-shed squalor and cement slums were thrown up everywhere. Uprooted from the easy familiarity of their homes, the villagers, huddled in masses tied to the machine, their human impulses were lost, creating a proletarian class alien to the soil. Having left their families in the villages resulted in a sex-disparity in the urban population. The lonely city drove them to seek a little friendliness in the prostitute, some laughter in drink, and to break the wretched

²⁰ Manshardt, p. 83.

monotony they sought excitement and adventure in gambling dens.²¹

Manshardt was observing these developments closely. He started his initial work in this regard, around Bombay (Nagpada Neighbourhood). In his work Manshardt was confronted daily with this challenge. His own staffs were completely untrained and he was conducting evening classes to give them the rudiments of social sciences. He looked round for fellow workers – found none. What is more, there were no regular facilities for scientific training of social workers. The Social Service League and the University Settlement for Women were running short-term evening classes but the training was in no way adequate. India's problems were complicated and needed the study of social sciences, not only for a proper analysis, but also for achieving clearly defined objectives with modern methods and techniques. A committee of lawyer sent out in 1934 from the U.S. to report in Christian Institutions about India also stressed the urgency of starting an Indian School of Social Work. Manshardt seized on this opportunity. As the work expanded, the scope of classes extended and this created problems for Manshardt and other officials of the Trust. Finally, he wrote to Nowroji Saklatvala, the C.I.E. and the Chairman of the Trust, and expressed his desire and feelings in the following words:

“The standard of social work in India could not be raised appreciably until a relevant school of social work was set

²¹ DTT/PHIL/MIS/3/Box No. 87, TCA, p. 1.

up, to engage in a continuous study of Indian School problems and to offer training for social work, on a post-graduate basis.”²²

As a Director of the Sir Dorabji Tata Trust, he had the sympathy of Sir Nowroji Saklatvala, the Chairman and through him he approached the Trustees with an insightful appeal to shoulder this pioneering work. Sir Ratan’s keenness for the study of social sciences and the growing demand for trained social workers created the right atmosphere. The trustees after some discussion, decided to support the scheme, and in 1935 the Director was entrusted with the task of organising the school.²³

TISS and its Curriculum

Dr. Manshardt was quite clear about the basic principles. In his original draft submitted to the trustees, he states his ideas clearly in the following words:

“The proposed school for training social workers should be a graduate institution, offering a two years course leading to a Diploma in Social Work . . . while the school will be of high academic standing, it will seek at all times to be eminently practical – to emphasise human values and to apply the best of social thinking to our present life. The school will be an outstanding scholastic institution, but it will place men above books. It will seek to make people who are at present willing to do social work, actually competent

²² Note on the ‘Trust Programmes and Policies’, DTT/PHIL/MISC/3, Box No. 87, TCA. Dr. Manshardt realised this, when he was taking initial steps around Nagpada Neighbourhood in Bombay. In this connection he had also written and discussed the matter with Nowroji Saklatvala.

²³ TISS History Papers DTT/PHIL/MISC/3, p. 16, TCA.

to do social work. The staff will be chosen with great care and will be of such calibre as to command academic recognition.²⁴

He also insisted that the major expenditure in the budget (a sum of Rs. 21,000 in a total of Rs. 37,500) should be reserved for the faculty which should be appointed on full-time basis, and, that here, there was no place for stinting. Without a first-rate faculty the scheme would not be worth pursuing at all, he maintained, and the Trustees accepted this graciously. Further, in discussing the scheme with the Chairman, Sir Nowroji, it was made clear to him that the Trustees could very well be giving birth to a troublesome child, for the opinions of a school of Social Work at times be widely at variance with the opinions of its capitalistic parents. "Tatas", replied Sir Nowroji, "have had plenty of criticism in the past. We are big enough to take it, and I hope profit from it."²⁵

In this spirit, the Sir Dorabji Tata Graduate School of Social Work started working with a group of 20 students in June, 1936. Dr. Manshardt was appointed the first honorary Director and he secured the services of Dr. J.M. Kumarappa, an experienced educator with American graduate training, as the first staff member and his collaborator in the details of organisation. It occupied half a dozen rooms in the Neighbourhood House. Though the premises

²⁴ Manshardt, p. 84, also available in TISS History Papers DTT/PHIL/MIS/3, p. 2, TCA.

²⁵ DTT/PHIL/MIS/3, p.3. Nowroji informed the Trustees of his bold decision through the letter. However, apart from Nowroji, Manshardt played key role in it.

in Nagpada area supplied a first-rate laboratory for the field work so essential in training of this character, the school was conceived as a national institution, admitting students from all over India; and for it to be able to experiment and feel its way in uncharted seas of teaching social sciences, it was thought proper to avoid affiliation to any university. The school was equipped with a modern library, the first social work library in India and nearly a third of the first-year budget was reserved for books. The library was not large, by university standards, but it did contain a choice selection of basic books in the social field. The library had also been assembled with great care, as its bibliography had been prepared by the University of Chicago Library. In addition to this, they were also able to secure a representative quantity of professional journals to keep in touch with current activities.²⁶

The two-year course prepared the graduate students for the Diploma in Social Science Administration. It was necessary to start with pre-professional courses providing essential background material, as the collegiate training of the students were mostly literary. The curriculum also included general grounding in family and child welfare; medical and psychiatric social work; juvenile and adult delinquency; industrial relations, social-service administration and social research and field work. It is from these general courses that the specialisations of later years have developed.²⁷

²⁶ TISS History Papers, pp. 16, TCA.

²⁷ DTT/PHIL/MISC/Box No. 87, p. 4.

The school's main departure from university practice was in its emphasis on field placements and practical work. The students participated in the normal life of institutions and committees in order to learn modern methods of handling environmental problems and situations. To acquaint them with the fundamentals of scientific investigations and research techniques each student was required to submit a thesis in the last year of his work. The introduction of a social studies curriculum in India was itself a major piece of research, for it was not possible to use western material without critical analysis and adaptation to Indian conditions in the light of India's national heritage.²⁸

In the very first year, Dr. Manshardt introduced the system of Visiting Professors which has stood the school in such good stead. He invited his old Professor, Dr. Arthur E. Holt, of the University of Chicago. In his introductory remarks, Dr. Holt said:

"I wish to congratulate the Trustees of this school in founding a school which roots so thoroughly in ten years of practical experience in the city of Bombay. It would be easy to take the advanced ideas of modern social work from the west and fund a school for their propagation and the adventure would probably be as dangerous as it would be useless. But it is a different matter to relate such a school to the experience of ten years of actual living in the midst of Byculla, mixing with every nationality in the orient and challenged by every problem with which human nature is puzzled. . . I wish to congratulate the founders of this school for the training of social workers on locating it in such a

²⁸ Ibid.

place. Here is something more authoritative than theory. In the influence of the people who have lived and worked here, is a power which will stamp the graduates of this school as most highly qualified for times of usefulness. Mr. Chairman, whatever be the future of this school, may I suggest that you even seek that authority which asides in a spirit of service and` a deep and profound practical experience".²⁹

The attempt to root training for social work in experience was the mark of the Tata School from its inception. As a graduate school, it maintained a high academic standard, but it also sought to be eminently practical and to apply the best of modern social thinking to the solution of India's social problems. It recognised that the cultural, economic and social conditions of India differed from those of the west and made every effort to adopt materials to Indian conditions and to interpret Indian problems in the light of the natural social heritage. This was somewhat similar to the Gramscian ideology, which try to see India/or colonies and their problems in their light and not in terms of the west.³⁰

In facing the question of what subject should be taught, the management of the school studied the approach of both British and American schools' of social work. American schools, for the most part reflected their early connection with social work agencies and offered many courses in the practice of social work. British school,

²⁹ T.O.I., 3 February 1937.

³⁰ Manshardt, p. 87, Gramsci writes this in his famous prison note-book, pp. 1-14.

on the other hand, devoted more attention to the philosophic background. The curriculum of the Tata school, however, provided a combination of the two.³¹

A second group of courses, other than the pre-professional courses, can be described as orientation courses – courses which disclosed the general field of social work. Since social work in large measure with deviations from normal, they regarded it as essential that every student should understand the processes of normal known development and the ways in which behaviour is modified in the family and wider relationships. Courses in this division included the family, child psychology, the historical backgrounds of social work, Indian social problems, rural-urban interplay, Indian industry, the Indian industrial worker, the state and social work and social legislation. The third group of courses dealt with the practice of social work, case work, group work, delinquency, the work of the labour officer and social work administration.³²

Faculty

The faculty of the Tata School was on a full-time basis, in order that each faculty member might have time, both for personal research, and for the direction of student research. As a matter of fact, the pioneering of a social studies curriculum was itself a 'major research project', as it was quite impossible to use western materials without submitting them to a considerable amount of

³¹ T.O.I., April 8, 1837.

³² TISS History Papers, pp. 6-7, TCA.

critical analysis, to determine their applicability to Indian conditions. The fact that Tata School, while still in its infancy, saw fit to establish the quarterly Indian Journal of Social Work, for the encouragement of original research, is concrete evidence of its interest to this subject. While introducing the journal, Dr. Manshardt, expressed the following desires:

“We do not anticipate that every graduate of the Tata school would be a research scholar, but we did attempt to familiarize each student with research techniques and with the fundamentals of the scientific method.³³”

Issues and Priorities

The Report of the Royal Commission on labour in India, which was published in 1931, gave an impetus to much-needed factory legislation, and also resulted in remedying evils accompanying the employment. The old mukadam-naikin³⁴ system of labour control, was exposed for what it was – a vicious exploitation of workers, and steps were taken to remedy the above. At the same time, attention was given to other major grievances of the labourers; their lack of any effective contact with management, indiscriminate dismissals, fines and deductions.³⁵

³³ Manshardt, p. 88.

³⁴ Mukadam-naikin combination had been used by the medieval state to extract revenue from the peasants. Mukadam, for instance, use to be the middlemen during Sultanate period of our history and the Nayaka had been appointed by the Chola state to supervise the task of revenue collection. Over the period of time combination became a coercive mechanism. They use to enjoy at the cost of the peasantry. TISS and its management since beginning regarded the 'labour relations', an important component of industrial relation.

³⁵ Mritunjay Kumar, unpublished dissertation entitled “The nature of nationalist intervention in TISCO Labour Union Movement (1920-29), p. 32, submitted to SAS, NAI. This movement has exposed the gap between the

Another important legislation, the Bombay Trades Dispute Act of 1934, designed to set up working machinery for the fulfilment of differences between labour and management, also provided for the appointment of a labour officer for the textile industry in Bombay city and suburbs. The duty of the labour officer, as defined in the Act, was to match the interests of workmen with a view to promote harmonious relations between employers and workmen to employers for the purpose of obtaining their redress. The most common grievances concerned wrong dismissals, reinstatements, re-employment, bribery, assault, welfare and claims for wages.

Since the whole matter of labour relations and labour welfare was very much under discussion at the time when the Tata School was founded. Thus it pioneered the training of labour welfare officers and placed both men and women in key positions in the major industrial centres in India. "Abuses of a type which we could not deal within our individual efforts at the Neighbourhood House came to be dealt effectively as the school reached out into Indian industry".³⁶

Alongside the demand for labour officers, was the demand for juvenile court workers and adult probation officers. As a unique contribution to the juvenile field, the Tata School organised the first complete Child Guidance Clinic in India, in 1937, under the

management and the labour union, particularly in TISCO. TISS, while formulating its curriculum gave sufficient weightage to the labour issues, which in Manshardt's word was vital for any industry under Tatas or otherwise.

³⁶ TISS Annual Report 1937, p 16.

direction of Dr. K.R. Masani, one of the very few trained psychiatrists in India in those days. The majority of the cases which came to the clinic were referred by the Children's Aid Society, which was working in close cooperation with the Bombay Juvenile Court. The principal causes of reference were behaviour and personality disorders, habit disorders, educational problems, and disturbances of physical functions.³⁷

The Child Guidance Clinic was started on an experimental basis because it was recognised that conditions in India differed in many respects from conditions in Europe and America and the authorities were not sure, as to what variations in technique would be required. Experience during the first five years demonstrated that apart from language and cultural modifications – the latter primarily in connection with the psychological tests; the fundamental approach to the problem, as employed in Europe and America, produced satisfactory results in India.³⁸

The clinic procedure followed the general pattern of initial interview of the child and his parents or guardians, by the psychiatric social worker, psychological examination by the clinic psychologist, and observation of play attitudes by the psychiatrist. The different facts thus gathered used to be discussed in joint conferences of the staff, a diagnosis was arrived at, and the treatment programme formulated. The attempt was made to deal

³⁷ TISS History Papers, p. 9, TCA.

³⁸ Ibid., p. 10.

with the whole personality of the child and to bring a more harmonious relationship between the child and his environment – which in many cases meant treatment for parents as well as children.³⁹

Because social work, on a professional basis, was practically non-existent in India, it was necessary for the Tata School to undertake a programme of public education, in an attempt to explain to the public the meaning of scientific social work, and to create a demand for more trained workers. The management of the school used to write articles for the press, and prepared many pamphlets for public distribution. They addressed public meetings and spoke on the radio. In the process, they also prepared exhibits and sought in every possible way to make the public social work conscious.⁴⁰

Employment Scenario

Dr. Manshardt maintained that the values of the school would be judged in part by the ability of its graduates to find satisfactory employment. Keeping this vital fact in mind, they in their initial years spent much time in writing letters to public bodies, private institutions, and employers, in an endeavour to point out the advantages of employing trained workers. However, the success or advantages of the above methods employed by the first director Dr. Manshardt and his team, can be seen in his own speech,

³⁹ Ibid., p. 74.

⁴⁰ Ibid., pp. 75.

“The success of this effort is witnessed by the fact that there was, from the first, a demand for Tata school graduates. The early graduates of the school assumed responsibilities, which in many instances, were far greater than would have been entrusted to any young graduate in western countries. And it must be said to the credit of these young people that practically all of them carried out their responsibilities in a mature and professional manner. I believe that we were able to accomplish this result, because in the early days, the Sir Dorabji Tata Graduate School of social work was more than a school. It was a fellowship where students and teachers worked together on common problems where instruction was individualised; where we lived what we taught and where every student had a sense of mission.⁴¹

Achievements of the School

In addition to training its students to deal with the cause of social breakdown, the Tata School also took lead in seeking to prevent such breakdown. From its inception it sought to work in close cooperation with the provincial Governments. It took part in framing significant legislation. Staff members gave information and advice to individual legislators. Members of faculty served on important public bodies. The experience of the school was utilised both in public welfare, administration and in various subsequent efforts of social education and training, resulting ultimately in Government departments of welfare and other school of social work in India.

⁴¹ Manshardt on the occasion of Annual day function of TISS, T.O.I., 23 June 1938.

Apart from the above, the members and the alumni of this school had always provided leadership in the crisis. The tragic events that followed partition, brought upon the country refugee problems of an unheard magnitude. In this hour of national crisis, responding to the invitation of the Prime Minister, it was the privilege of the Tata Institute of Social Sciences to send out a contingent of 20 students under the leadership of Professor (Dr.) Behram Mehta for immediate relief work to the Kurukshetra camp. During the short period of six months they registered all the refugees from Pakistan in Delhi and Kurukshetra and examined and surveyed the individual problems of more than 30,000 families. They organised and co-ordinated welfare activities, started an employment exchange for qualified personnel and set up nursery schools and homes for women and children. Some of the institutions that they sponsored are still doing valuable work in the province. The Government of India appreciated the services rendered by the T.I.S.S. team. Mr. Evert Barger of the U.N. Relief Administration recording his admiration writes:

“It was a national emergency and during my visits to Kurukshetra and the East Punjab I found that you and your colleagues had looked upon it as such. I shall not easily forget the hours that I was privileged to spend with your students at Kurukshetra, their initiative, keenness and powers of organisation. They knew what they were doing, what wanted to be done and how to do it. Only the

ebullient, indefatigable Behram Mehta could have shouldered this, giving such inspiring leadership".⁴²

Another all-India lead was given by the Institute when the Alumni Association under the able Secretaryship of B. Chatterji sponsored the first All India Conference of Social Work in 1947. They set up a permanent organisation known as the Indian Conference of Social Work, it has now established active branches all over the country. Affiliated to the International Conference of Social Work, it was able to hold the Sixth International Session, for the first time in Asia, in Madras in 1948. Attended by 1300 delegates from 32 countries, it was voted to be a signal success. Securing affiliation with the International Committee of Schools of Social Work put the TISS on the world map of social education.⁴³

In an international survey of training for social work undertaken by the Department of Social Affairs of the U.N., in 1950 the T.I.S.S. is the only one, of the 373 schools of social work in different parts of the world, to receive special mention for achieving harmony between the teachings of social science and professional social work. Thus, during 1945-50s, the institute continued its creative role in the social life of the nation.⁴⁴

During these years, Dr. Kumarappa, the newly appointed director of the institute, with the help of the U.N. and the

⁴² Letter written by Mr. Evert Barger to the Director TISS, TISS Annual Report, 1948, pp. 7-11. Also available in TISS History Papers, p. 66.

⁴³ TISS History Papers, Box No. 87, pp. 64, TCA.

⁴⁴ U.N. Development Report 1950.

Government of India, brought Dr. Walter C. Reckless, an authority on Criminology and Professor of Social Administration at the Ohio State University, U.S.A., as a Visiting Professor. Under him a new department of Criminology and Juvenile Delinquency, and Correctional Administration was established. An extensive tour of the country was planned for him, not only to acquaint him with Indian Jail conditions and administration, but also to provide an opportunity for Jail officials to confer with him on jail reforms and methods of rehabilitating prisoners. His tour resulted in a six months' course held in Bombay where 15 state Governments deputed 47 jail officers for this special training in Correctional Administration. This was followed by an All India Conference of Inspector General of Prisons and another for Chief Probation Officer. Dr. Reckless's mission in India, however, brought about a keen awakening in prison reforms introducing a more human approach and created a new outlook all over the country.⁴⁵

Another notable contribution of national importance was the appointment of Dr. Behram Mehta as Advisor on Social Programmes to the Planning Commission and the Community Development Projects. He was responsible for drafting the sections on social welfare, and the welfare of neglected classes and Tribal population of the country. The social welfare board was conceived while he was in Delhi, and he initiated the works of the Bharat Sevek Samaj.⁴⁶

⁴⁵ Ibid., p. 63.

⁴⁶ Ibid., pp. 61-62.

J.N. Tata started his first endowment for the Indians higher education of Indians abroad in 1892. Behind such a scheme, he had a vision of industrial India. It was his way to fight the menace of the colonial rule. His sons Dorab and Ratan, not only continued his benefactions, rather started several philanthropic Trusts to achieve the same. These Trusts, apart from the educational endeavours, also undertook the issues of famine, flood, earthquake and several such related matters in the period. Both Dorab and Ratan extended the funding from technical, scientific and industrial education to medical and social science education. Tata Institute of Social Sciences, formerly known as Dorabji Tata Graduate School of Social Work Education, was established to systematise and discipline the social work programmes in India. The House and the school proved the same, when it successfully solved the complex issue of refugee problem in Kurukshetra and Delhi in 1947. Around the same period the school also made a mark in jail administration. Later, the school also helped in the coming up of the School of Social Work at Delhi, Baroda and other places in the country.

CHAPTER – V

CONCLUSION

Taking the clue from the cloudy atmosphere prevailing in Indian industries around 1890s, J.N. Tata tried to introduce his education-related measures, so as to clear the obstacles in the path of progress. His triple scheme of technical university, Iron & Steel Industry and hydro-electric project, had been a part of future industrial India and was also linked to one another. His objective understanding of the period and the limitations of the organisations like INC and individuals like Mahendralal Sircar never deterred him from his proposed plan. These incidences rather affirmed his commitment. In his educational plan, B.J. Padshah was always at the forefront. He helped the House in formulating the university scheme. Before his death, J.N. Tata had been able to convince the Secretary of State, Lord George Hamilton regarding the need and urgency of the scheme. As a result of which, Hamilton asked Curzon to review the same. His two sons Dorab and Ratan in a span of 10 years fulfilled the dream of his father and also moved forward in this area.

Sir Dorabji, with the aid of his father's right-hand men, became chairman of most of the companies, and Mr. R.D. Tata continued his invaluable part in the general management of the firm. Mr. Padshah busied himself with the Iron and Steel Company, as well as with the educational project. The second son,

Sir Ratanji, took over the reclamation schemes and continued the development of the landed property.

None of the greater projects was allowed to lapse. After Mr. Jamsetji's death his two sons continued the scholarship scheme of 1892, which was not yet self-supporting, and they at once surrendered the properties from which the Institute of Science derives much of its income. When the Institute opened its doors to the first batch of students, the buildings were still unfinished, but housing accommodation had been prepared, and some of the laboratories were sufficiently equipped for commencing work. The library was temporarily housed in south wing of the electrical laboratory. Two departments were opened: one for chemical research, the other for electro-technology. In the following years a department for the study of organic chemistry was able to begin work. The various laboratories were well supplied with apparatus, oil, gas, water at high pressure; and electric mains, at various voltages, were installed throughout the building. In this way, slowly and gradually, each department and their requirements got fulfilled.¹

Each successive year was marked by steady improvement, both in the range of work and in the efficiency of the equipment. The two departments for chemical research were usually well furnished and the technical side of the laboratory was as extensive as that in any similar institution. Many experiments could be made

¹ Harris, pp. 279-280.

with the actual plant used in the factories, enabling the commercial value of an investigation to be thoroughly tested.

In the long run, the Institute also benefitted the states in their industrial and commercial ventures. For instance, Mysore government in association with the scientists of the Institute extracted the oil from sandalwood. It also obtained the scientific data regarding the yields of charcoal, tar acetic acid and wood spirit respect of some common trees of the forests in the Mysore state. The Madras Government too endeavoured to benefit from the expertise at the Institute. The experiments on the analysis and retiring processes of fish oils of the western coast, undertaken by A.K. Menon, led to the production of spraying soap fluids, which were effectively used by planters of South India. The Madras government also solicited the assistance of the Institute to set up industries relating to oils and fats, tanning materials, disinfectants and the like besides production of refined common salt. Apart from these two states, U.P. and C.P. also solicited help from the Institute on several matters pertaining to their industry.²

In practical work the Institute was of undoubted value to Indian industry. It was Mr. Tata's aim to train students in such a way that the actual effects of their work should be beneficial to the country. Hitherto the chemist had frequently looked at a chemical operation without regard to the cost, but the institute has enabled its students to investigate a process as a commercial proposition

² CH. III.

with this end in view, much has been done towards the propose classification of the raw materials of India.

It was hoped that in future the Institute would prove beneficial to industry. The analysis of certain raw materials could frequently be made more successfully in India than in England. During the war of 1914, the colonial state had benefitted from the Institute as the chrome iron-ore exported from Southern India was analysed at Bangalore, and on the basis of this analysis, part payment was made immediately upon shipment. In addition, the Institute could provide merchants with valuable information as to the quality, quantity and price of raw materials, and is equipped for the preparation of samples of new and little-known oils and drugs.

In 1915, Sir Dorabji Tata, in speaking of the Institute drew attention to his father's view of what the foundation should be. 'He intended it', said the son, 'not to be a glorified technical institute, turning out a few indifferent chemists and electronic operators, mainly intend upon making a living for themselves, but a sort of nursery and training-ground to inculcate the spirit of original and specific research in different branches of science and industry, which might ultimately serve as a means for the development and prosperity of the country'.³ In order that his father's idea should be attained, Sir Dorabji Tata arranged with the Government of India for a review of the work already done. The Governor-General in

³ Dorabji Tata Speech at the opening of the Indian Industrial Conference, Dec. 1915, Harris, pp. 284.

Council appointed a committee under the chairmanship Sir William Pope, the Cambridge Professor of Chemistry. The committee after having a close look on the working of the Institute turned its attention to reformation rather than to an investigation of past errors. Among the several aspects, its recommendations touched upon the curriculum, standard of living of the persons associated with the institute and the possibility of new departments. The Government and the Tatas received these suggestions with open mind and tried to implement, depending upon the availability of the resources.

Moreover, during these years institute also paid enough attention to the requirements of the states like Mysore, Tamil Nadu, Central Province and U.P. At least five factories owe their establishment to results obtained in the laboratories at Bangalore. These factories had been established in these states. Among them, two are for the extraction of sandalwood oil; a third is for the manufacture of white lead; a fourth for the making of high-class soaps; and the fifth turns out lead pencils. Apart from these, many experiments have been made for the distillation of wood, and much time has been devoted to the production of high-grade from crude salt. The origin of these achievements, in a way, could very well be traced in Tatas vision.

However, despite the sincere efforts of Dorab, Ratan and Padshah in the Institute of Science, some of the proposals that they made did not mature. In 1912, Sir Dorabji Tata proposed to endow

a school of Research in Tropical Medicine in India, a subject that he regarded as valuable alike to the cause of science and to the progress of his country. He was fully prepared to associate his scheme with Bangalore, but as he did not receive the necessary support, he allowed the matter to lapse. Later on developed independently as the School of Tropical Medicine in Bombay. Around the same time, owing to the financial constraints of the IISc., Padshah proposed to establish a department of Philosophy, History and Social Science. The proposal had been turned down by the then director Travers, which later developed as the Tata Institute of Social Sciences. Similar had been the fate of Jamshedpur Technical Institute. This institute had been planned and finally established under the guidance of B.J. Padshah, after he left the Council of IISc. in 1914. Tata Institute of Fundamental Research was another such Institute. The Institute conducted its initial experiments at IISc. Bangalore later developed independently to pursue its plan. It raised the standard of India to a great height in nuclear science. Thus, a large number of Institutes earlier planned and envisioned by the Tatas to be opened under the IISc fold developed independently, owing partly to the changes and shifts in the policies of the Government and the Council of IISc and also because of the general character of the scientific research of the Institute. The House never tried to indulge in the politics, always strived for the quality research. This was precisely keeping in mind, the vision of its founder J.N. Tata.

Moreover, it is important here to dwell at length upon the several trusts and their policies established by Dorabji, Ratanji and others, following the death of J.N. Tata. These trusts and their philanthropy supported the cause of several organisations in India. During these years, they addressed the issue of poverty, drought, flood and several natural and manmade calamities. Tata Institute of Social Science was one such organisation. It later helped and provided their services in the refugee problems in the post-partition episode and several other matters pertaining to social work, social issues and community development programmes in India.

After the demise of J.N. Tata, his sons Sir Dorab and Sir Ratan established pioneering trusts geared to building the educational, social and scientific infrastructure of this nation. At a time when most charities were only communal in nature, the Sir Ratan Tata Trust (1918) and the Sir Dorabji Tata Trust (1932) established a precedent of being universal in their generosity. The Anjuman-I-Islam or a Hindu Institution could lay as much claim on its resources as any Parsi charity could and they did. Both of them maintained the spirit of their father, by undertaking similar projects and helped the needy and organisations on time.

His younger son, Sir Ratan Tata, sensed the importance of the work of Gopal Krishna Gokhale in India, and of the then little-known Mohandas Karamchand Gandhi in South Africa. For a number of years, Sir Ratan, supported Gokhale with generous contributions. On October 19, 1909, referring to Sir Ratan Tata's

help to the society, Gokhale wrote, of 'the deep gratitude I feel for your overwhelming generosity to my society. I can only say that members of the society will ever cherish your name as that of their greatest benefactor'.⁴ Similarly, Sir Ratan contributed to Gandhi's campaign for racial equality in South Africa, a sum of Rs. 125,000 – not a negligible amount for those days. Sir Ratan wanted the best institute in the world to do research into the causes of poverty and its alleviation. In the last six years of his life, he gave each year £ 1,400 to the London School of Economics for this purpose. The Trustees continued the donation for some years, even after his death. It led to the establishment of the Sir Ratan Tata Department in 1912, now called the Department of Social Sciences at the school.

In the same way, Sir Dorab like his father made his Trust Deed, 'without any distinction of place, nationality or creed'. He maintained that the Trust should Institute, maintain and support schools, educational institutes, hospitals and other relief in cases of distress caused by national disasters. He also stressed, 'the advancement of learning in all its branches especially research work in connection with the medical and industrial problems'. It maintained the example and the standard set by the founder of Tatas, Jamsetji Tata, in the Indian Institute of Science at Bangalore. In addition to giving grants liberally each year for the advancement of learning and the relief of distress caused by natural

⁴ R.M. Lala, *The Creation of Wealth*, pp. 150-152.

disasters such as floods or drought, the Trustees established some major institutions of a pioneering character, like the Tata Institute of Social Sciences (1936), the Tata Memorial Centre for Cancer Research and Treatment (1941), and the Tata Institute of Fundamental Research (1945), conceived by Dr. Homi Bhabha, which later became the cradle of India's atomic energy programme.⁵

Very often the two trusts of Sir Dorab and Sir Ratan moved hand in hand. The Sir Ratan Tata Trust took the primary responsibility of erecting the J.N. Tata Memorial Centre at Navasari, giving the birthplace of Jamsetji a civic centre, an auditorium and a library. To the Sir Ratan Tata Trust's initial donation of Rs. 25 lakhs, the Sir Dorabji Tata Trust and a number of Tata companies happily joined in taking the figure to Rs. 55 lakhs. The industrial house of Mafatlal made a contribution of Rs. 5 lakhs for the gardens.⁶

Sir Dorabji Tata gave his trustees considerable latitude to take up new projects to meet the changing situations. The Sir Dorabji Tata Trust has made available in five decades over Rs. 18 Crores for its remarkable ventures, the period, which I have not covered in my dissertation. Many of these earlier contributions were made in the 1930s and 1940s, when the value of the rupees was 10 to 25 times that of today. The two Trusts and their outreach, reflect the different personalities of the two brothers. Sir

⁵ Chapter III.

⁶ R.M. Lala, p. 157.

Dorabji, the elder brother, was a domineering, efficient, industrial magnate. It was he who pioneered in bullock-carts the search for iron ore and built up the steel plant and other industrial ventures. Sir Ratan Tata, as his photograph shows, was a sensitive and artistic personality, interested in paintings, sculpture, archaeology and the like.⁷

Sir Ratan died in 1918 at the age of 48, leaving behind his widow, Lady Narajbai Tata, who was to outlive him by 44 years. The rest residue of his property amounted to Rs. 81 lakhs. Although the Sir Ratan Tata Trust has contributed significantly to the great institutes launched by the Sir Dorabji Tata Trust, Sir Ratan had a very distinct personality of his own that reflects his sensitivity to the suffering of mankind. The Ratan Tata Industrial Institute is well known for providing women from lower income groups, a framework for a decent livelihood. The Trust has spread itself out contributing generously to homes for homeless, hospitals, outpatient dispensaries, village schools, blind schools and like. Some of the important institutes, which received the grants from the said trust, included Indian Institute of Science, Delhi School of Economics, Prince of Wales Museum Bombay, Tata Institute of Social Sciences.⁸

Some of the other Trusts started in the name of Meherbai and J.R.D, during the period 1932-1947. The Lady Tata Memorial

⁷ Ibid.

⁸ Ibid., pp. 158-159.

Trust was started in 1932 by Sir Dorab Tata in memory of his wife, Lady Meherbai Tata who died of leukaemia. It promoted the research in leukaemia. The Trust promotes research principally by means of international awards in addition to a fifth of its income being allotted for Indian awards. The J.R.D. Tata Trust, established in 1944, was a multipurpose Trust for the advancement of learning and relief of human sufferings. It slowly and gradually disbursed over a Crore of rupees in Independent India, for these causes.

The Trusts have also been pioneers in rural upliftment, having launched the major programme at Maan Taluka around 1905s. Tatas programme of relief of distress, started in 1934 with the Bihar earthquake and relief programmes have been continuous in a vast land attracted frequently by ravages of nature plan the cruelty and indifference of man to his fellowman.

In its starting phase, the Tata Trusts have created an infrastructure for the balanced development of Science, Technology and the Social Sciences. They have launched pace-setting institutions that have given India its first institute for social sciences, its first cancer hospital and research centre, and also the first institute for fundamental research in physics and mathematics that gave India a head-on start in its atomic energy programme.

Tatas never lagged behind in the social work and the community development programme. Under the able guidance of Dr. Clifford Manshardt, the first director and the advisor of Dorabji Tata Trust, the Trust felt the need of a school, which could train its

social workers. This became even more important in the light of the indiscriminate industrialisation, population increase and the problems arising due the newly developed scenario between the two World Wars. The House under the banner of Dorabji Tata Trust pioneered such activities in India. As a result of which, the Sir Dorabji Tata School of Social Work started with 20 students in June 1936.

The two years course, prepared the graduate students for the Diploma in Social Science Administration. The curriculum included in its programme general grounding in family and child welfare; medical and psychiatric social work; juvenile and adult delinquency; industrial relations; social science administration and social research and field work. The school's main departure from university practice was in its emphasis in the field placements and practical work. The students participated in the normal life of institutions and committees in order to learn modern methods of handling environmental problems and situations. The school tried to see the condition of a locality in the light of their problems and needs. The school developed in the successive years and also improved the infrastructure and the other needs simultaneously. The placements and the curriculum and the range of the course also changed in accordance with the needs of the society and industry.

In its achievement, it touched every sphere of the social life in India during these years. Starting from the slum and congestion of

the Nagpada Neighbourhood, it solved the problem of refugees, after partition in Kurukshetra to Delhi. The Institute offered its services in jail administration and particularly in rehabilitating the prisoners. Under the able leadership of Dr. Behram Mehta, the school look up the cause of tribal population and their welfare.

Despite these achievements, there are certain grey areas, which needs a careful look. The study reveals and it is almost certain that the House in these years, had given preference to the issues which directly concerned its business. For instance, J.N. Tata chose Bombay and adjoining areas for most of its establishments, particularly taking into account the importance of Bombay as a port city and having business culture. Similarly Jamshedpur, for its proximity to raw-material and labour. The House and its principle venture IISc had been established, keeping in mind, the Technical, Scientific and the Industrial needs of her basic and core industries in India. When the things did not materialise, the House went for the specialised institutes, like JTI, TIFR and the School of Tropical Medicine. The House never made its investment plans blindly. Before making any such move, the House and particularly J.N. Tata use to ensure the safety and the long term interests of the scheme. For example, when he planned for the technical university, he ensured that the Government and the regional state Mysore should be a part of the plan. The presence of these forces, in his words, 'may give stability to the scheme and also save it from derailment at a future date'. It is also

true that the members of the House, gaining from the past experiences, had aptly been able to present the case of the House in suitable manner. After all, public image is also one of the crucial aspect for any organisation. Talking of Tatas, whether it was the case of scholarships or trusts, the house balanced them against the odds like caste, creed and communal lines. In the long run, the House and its schemes, benefited only fraction, taking into account the large population and the size of the country. Thus, it is not that the House had been doing everything for the sake of patriotism. They had their business considerations in mind, but they also understood that their business is not safe without a sound nation, which made all the difference.

Thus, The House of Tata travelled a long way in these 58 years (i.e. between 1892-1950). It started slowly around 1890s, but soon acquired enough pace. Acting upon the vision of its mentor J.N. Tata, the Indian Institute of Science, developed its programmes and policies, which suited better to the needs of Indian industries. Dorab and Ratan never tried to confront the policies & programmes of IISc, and whenever possible, developed independent institutes like Jamshedpur Technical Institute, School of Tropical Medicine, Tata Institute of Social Sciences, for further progress. The House and its several trusts (i.e. Dorab, Ratan and several others) undertook several programmes and policies for social and community needs. Tata institute of Social Science was one such effort to systematise and discipline these efforts. The institute had

been awarded for its excellency, by different national and international agencies in the period. Therefore, if not in totality at least in parts, the House of Tata led the industrial pathway of India and enriched the vision of J.N. Tata in this period.

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