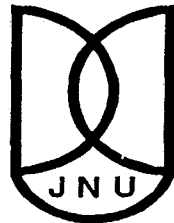


**A TECHNICAL EDUCATION FOR THE ARTISAN: A
CASE STUDY OF THE LUCKNOW INDUSTRIAL
SCHOOL c. 1880-1918**

Dissertation submitted to the Jawaharlal Nehru University in partial
fulfillment of the requirement for the award of the degree of

MASTER OF PHILOSOPHY

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DECLARATION

This is to certify that this thesis entitled “A TECHNICAL EDUCATION FOR THE ARTISAN: A CASE STUDY OF THE LUCKNOW INDUSTRIAL SCHOOL c. 1880-1918” submitted by me is in partial fulfillment of the requirements for the award of the degree of Master of Philosophy of the Jawaharlal Nehru University, is my original work and it has not been previously submitted in part or full, for award of any other degree of this or any other university.

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CERTIFICATE

We recommend that the dissertation be placed before the examiners for evaluation and consideration of the award of the Master of Philosophy.

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PREFACE

The original theme of my dissertation was 'The Artisans of Lucknow'; but what directed me to take up this theme was the availability of substantial material in the U.P. State Archives, Lucknow about an Industrial School which was set up in the city in 1892 to train the sons of railway artisans, Europeans and Eurasian and more generally, the "industrial classes" of the city. The term industrial classes as it applied to Lucknow in the 1880s covered the artisans practicing traditional and ornamental crafts. The first chapter places this initiative in the broader context of the technical education debates which started with the *Note on Technical Education, 1886*. There were primarily two strands in these debates. The first which was also the dominant objective of the Lucknow Industrial School was to draw upon the existent pool of traditional artisans to create a class of skilled labor to be employed as foremen mechanics, railway apprentices etc in the various Public Works Department projects and the railways etc. This objective can also be located in the context of the recurring famines in the Province the effects and the solutions to which had been accounted in the *Report of the Indian Famine Commission, 1880*. The other strand of the technical education debate was the preservationist zeal which was inspired by the Art and the Craft Movement of 1870s and the 1880s. This objective, though existent was never dominant in the case of the Lucknow Industrial

School. This school lurched from one crisis to another in the early years, a theme which forms the subject of the second chapter. There was a constant problem persuading artisans to attend Industrial School for manual training. "If they came at all it was because they hoped to learn some English and acquire some general education in an institution where they did not have to pay fees." The entire technical training program of the artisan was to keep contain him to his social place. It did not talk about liberating or improving the artisan's position in the society. It clashed therefore with the artisans social aspirations. And the artisans protested in their own interesting ways which is visible throughout the history of the Lucknow Industrial School.

Most of the existing literature on technical education overlooks the aspect of technical education of the artisans. S.N.Sen's, *Scientific and Technical Education in India, 1781-1900*, 1990 gives an interesting account of the policies and the institutions of technical education from medieval to modern times. It gave me valuable guidance on sources but it misses out on the analysis of the social classes that these institutions dealt with. Shiv Visvanathan, Zaheer Baber and Deepak Kumar also deal with the various aspects of technical education but do not take up the subject of technical education for artisans for analysis. Shiv Visvanathan's, *Organizing For Science, The Making of An Industrial Research Laboratory, 1985*, deals with the subject of scientists and scientific research at a broader level. Chapters

two and three give a good account of debates about the technical and scientific research in India. In *The Science of Empire, Scientific Knowledge, Civilization, and Colonial Rule in India, 1996*, Zaheer Baber investigates the complex social processes involved in the introduction and the institutionalization of Western Science in colonial India. In India, he stresses already had a distinct tradition of indigenous science and technology. The encounter with Western science was neither a one sided process nor an uncontested one. As specific colonial policies started to take shape from the mid-nineteenth century, state patronage was withdrawn from the indigenous scientific and educational institutions. He argues that scientific and technological projects became the visible symbols of the colonial power and were deployed for legitimating colonial rule. The elite, urban and anglicized sections of the Indian population, who utilized the emerging colonial structures to further their social status also contributed to structural transformations. The work also investigates the role of the scientists, both British and Indian, in the transfer of Western Science in India and the creation of new scientific knowledge and institutions in the process. The emergence of the modern colonial empires witnessed the development of certain scientific institutions and processes which transcended national and cultural boundaries. The author concludes that total ruptures of the individual scientific traditions were never possible but the globalization of scientific and technological institutions

definitely led to the synthesis and the creation of new patterns of scientific knowledge.

While this is a useful survey of a broad range of issues, it is time now for monographs which take up particular issues in greater detail. Nevertheless, one finds a useful analysis of the various issues which prompted the colonial state to take up issue of technical education, the various classes which were gaining from these policies and also the interests of these classes which fed into the policy formation of the colonial state.

Another interesting theme which has been explored by Partha Mitter, *Art and Nationalism in Colonial India, 1850-1922*, 1994 and Tapati Guhathakurta, *The Making of A New 'Indian Art', 1850-1920*, 1992 is that of the Art Schools and Art and Nationalism. Though I have not drawn upon much from these works, they provide an interesting and useful account of the subject that they have dealt with. One finds Metcaife's work on Art School and Craft Movement particularly interesting because he presents a useful critique of the Art and Craft Movement. The present work draws upon a lot of his analysis while discussing the Movement's influence on the Art Schools and the preservationist debate which forms point of analysis of the second chapter.

Another theme briefly discussed in the third chapter is that of Exhibitions which have been explored by Carol Breckenridge Appadorai, Metcalfe, Bernard Cohn, and Stephen Wheeler. Carol A. Breckenridge's "Aesthetics and Politics of Colonial Collecting: India at the World Fairs" explores the politics of the series of Exhibitions that were happening all around the world in the second half of the nineteenth century. India was sending its products quite regularly to these exhibitions which were part of the economic policies of the colonial state and had a particular politics behind their organization. Breckenridge prefers to call these international exhibitions as cultural technologies and instruments of cultural hegemony. In the Great Exhibition of 1851 most of the Indian exhibits had belonged to the former Indian rulers and had been stripped off from them during the many years of conquest. For the British these symbolized the richness of Indian design and displayed the diversity of Indian handicrafts, it also exhibited England's role in preserving and sustaining it. Similarly, Metcalf analyses the Colonial and Indian Exhibition of 1886, by showcasing the lifesized clay models, their dress and jewellery, the living artisans at work on their crafts only depicted India as a timeless entity and a unity of people brought together under Britain's guardianship.

Stephen Wheeler in his *History of the Delhi Coronation Durbar*, n.d., explores the politics of two major exhibitions at the national level – the 1883 Calcutta Exhibition and another in Delhi in 1903 on the occasion of Curzon's Coronation Durbar. For the colonial organizers, the durbar was an opportunity 'of doing something for those art industries and fabrics for which India was once so famous'. The British had often been charged as the perpetrators of the decline of the

Indian handicrafts and the Durbar was a chance to overcome this charge. For the state, the Durbar exhibition not only attracted purchasers from India and abroad it enabled them to survey the artistic industries of India which had been aimed at for a long time, helped to estimate the effect of foreign competition and foreign demand on these artifacts, and popularized the fabrics and the manufactures which were hardly known because of their remoteness and lack of resources of the artisans who produce them. In turn, the artisan was supplied with fresh ideas of pattern and designs through the agency of these exhibitions. Only the best of the Indian artisans were to be selected for the Durbar to demonstrate their skills and artistic merit would be the main criteria for their selection. The artifacts would have to be the best of their kinds and had to have some market potential. Throughout, the emphasis was on improvement, revival of the originality and providing markets for the Indian handicrafts. The Indian chief's nobility and the aristocracy were urged to part take in this mission of the colonial state. And the mission was to proclaim to the world that India could still imagine and create. The artistic sense of its workmen was still alive and that they only required a little stimulus and encouragement to cater to the demands of their countrymen as well as international public. In this exhibition a collection of chikan work by Kedar Nath Ram Nath and Co. of Lucknow won a medal in Embroidery. In the Fine Arts Section, Bhagwant Singh of the Lucknow Industrial School won a medal for clay modeling.

The brief section on the United Provinces Exhibition of 1911 in the Chapter 3 discusses how exhibitions

added value to specific artisan products of Lucknow and why did the colonial state consider it important to deal with certain artisan products.

Given the paucity of time, I have looked at the sources in the National Archives of India, New Delhi and the Uttar Pradesh State Archives, Lucknow which are mainly colonial. These sources consist of files from the Department of Education, Exhibition, Industrial Art and Museum, and Reports on Technical Education and Famine Commission, Monographs related to the Industrial Department and the District Gazetteers.

Chapter 1: The Technical Education Debates of the 1880s.

Introduction:

The first major document which discussed the importance of technical education in the country was the *Note on Technical Education* (hereafter *Note*) in India by Mr. A. P. MacDonnell, Home Secretary to the Government of India in 1886 to investigate the conditions and prospects of progress of technical education in the various Provinces of India. The need for technical education in the country, the *Note* explained, was due to a glut in the government sector jobs.¹

The *Resolution on Industrial Education and Industrial Survey of India* c.1886 reiterated the recommendations of the *Note* but was more specific in its objectives.² The primary objective was that technical education would encourage a variety

¹ A. P. MacDonnell, *Note on Technical Education in India*, 1886. Charles Wood's Educational Dispatch of 1854 had hinted towards the need for Government initiative in the promotion of practical training. The Dispatch settled the Anglicist – Orientalist dispute leading to the creation of centralized Education Departments in each province and to the establishment of the universities at Calcutta, Bombay and Madras in 1857 and that of Punjab and Allahabad in 1882 and 1887 respectively. Thereafter, the financial support for the indigenous schools declined rapidly and by the 1900s, these institutions had disappeared almost completely. For details, see, Zaheer Baber, *The Science of Empire, Scientific Knowledge, Civilization, And Colonial Rule in India*, New York Press, 1996. After the Hunter Commission Report of 1882, the school curriculum was bifurcated after the eighth or the ninth year to encourage practical education. For details, see, *Report of the Education Commission*, 1882, pp. 219-222.

² *Papers relating to Technical Education in India* (1886-1904), Calcutta, 1906, pp.36-37. It criticized the Education Dispatch of 1854 and the Report of the Education Commission, 1882 for not precisely mentioning the need for scientific education to be adopted in the School syllabi.

of industrial occupations and reduce the pressure on agriculture.³ According to the *Resolution*, technical education was primarily skill formation through the cultivation of intelligence, ingenuity, taste, and observation. The extension of the railways, setting up of mills and factories, exploration of mineral and other products, the expansion of external trade, interaction with the foreign markets had spurred a demand for skilled labor - the educated foremen, supervisors and managers. The training of the skilled labor was to be conducted in the Technical Schools and the Schools of Drawing and Designing. The industries which would be taken up in the schools were only to be decided by industrial surveys and the provincial committees of educational experts.⁴ Thus, technical education was mainly oriented towards producing skilled labor from the 1880s.

The Need for the Technical Education of the Artisan: The Provincial Context: Famines.

The question which arises here is whom is the state trying to tap and convert into these foremen, supervisors and managers and why is it doing so in the North Western Provinces? One of the objectives was to reduce the pressure on agriculture which had come to the fore due to recurring famines. There was a great

³ In the Famine Commission Report of the 1880, the need for the diversity of occupations other than agriculture was stressed. *Report of the Famine Commission, 1880*, pp.37-38.

⁴ *Papers(1886-1904)*, Calcutta, 1906.

need of foremen mechanics or skilled labor in the North Western Provinces and Oudh for the subordinate posts of engineering. So, it was decided that in Lucknow, an Industrial school would be set up which would produce technically trained artisans.⁵ And the trainees would be the sons of the railway artisans, poor Eurasians and Europeans and most importantly the industrial classes of the city, mainly the traditional artisans. The focus of this chapter is to analyze the broader objectives of this technical education for the artisans.⁶

The Reports on the technical education can be discussed in the context of the Indian Famine Commission, 1880 for the North Western Provinces which was identified as a major drought prone area. These droughts were officially held responsible for a series of recurring famines in the Provinces in 1802-04, 1825, 1837-38, 1860-61, 1867, and 1870s. The main reason identified by the government for the disastrous consequences of these famines was the overdependence of the majority of the population on agriculture. This meant, as the report accounted, that the failure of rains increased the food prices for the ordinary laboring classes and snatched away their means of procuring food.⁷

⁵ Sir Auckland Colvin's Minute on Technical Education in *Papers Relating to Technical Education in India*, (1886-1904), pp. 123-31, Calcutta, 1906. For details regarding the separate training systems in the Madras and the Bombay Presidencies, see, *Note*, pp. 28-40. The details of the Policies of the North Western Provinces with regard to the Lucknow Industrial School are discussed in Chapter 2.

⁶ For a general description of the trajectory of technical education in India, see, Aparna Basu, *Essays in the History of Indian Education*, New Delhi, 1982.

⁷ *Report of the Indian Famine Commission, 1880*

The remedies suggested by the Report were encouragement to other forms of livelihood namely, industries, the development of public works, for instance, canal irrigation, extension of railways. The industries short listed were sugar industry, leather industry, cotton, wool, silk, tobacco, paper, pottery, glass, soap, oils and candles. These industries would be encouraged through private entrepreneurship, by importing information and skilled supervisors, by preferring local products and developing local markets for them than importing products from England, and lastly by encouraging technical, artistic, and scientific education through technical and industrial schools, setting up museums and promoting exhibitions.⁸

The Commission identified the landless class dependent on the wages of labor and the artisans, especially the weavers and the potters as classes which were most affected by the famines. Based on the recommendations of the Commission, an Agricultural Department was set up and a Famine Commissioner and other officers were appointed to administer the famine relief. As part of the relief measures for the artisans, the Report mentioned that the preference was to employ them in their own trades especially for the weavers, potters, tanners, etc. but owing to administrative inconvenience, they were employed on the public works.⁹

⁸ *Report of the Indian Famine Commission, 1880.*

⁹ *Ibid.*

In actuality, protection against famine had become important for the colonial state because recurring famines meant declining revenues for the state. This necessitated repairing the ruined irrigation systems and the construction of new canals. And skilled labor was preferred on these works. In the North Western Provinces, the public works included the Lower Ganges Canal, the distributaries of the Upper Ganges Canal, the Sarda Canal which was started in 1872 which provided the sites for employment of skilled labor.¹⁰

The skilled labor on these works comprised of both mechanics and engineers. The engineers had to be trained indigenously so that they were able to communicate in Indian languages with their subordinates and also because Civil Engineering was not well developed in Britain. The Ganga Canal project had laid the basis for an engineering institution in Roorkee which later developed in to the Thomason Civil Engineering College in 1847. By 1864, all irrigation projects had become government undertakings. This was part of the government's "constructive imperialism" policy which meant that the country would be ruled by a combination of concessions, force and by the

¹⁰ Ibid.

constant intervention of new scientific forces. But the famines had continued unabated.¹¹

Even though the *Report of the Famine Commission of 1880*¹² very specifically mentioned that the pressure on agriculture was the main reason for the recurring and devastating famines of India and also pronounced the remedy of countering such famines was to encourage industries so that the pressure on agriculture was reduced, the focus of the government policy remained oriented towards the scientific and technological development of agriculture. After all, agriculture was the colonial state's greatest industry. Two devastating famines struck India in 1897-1898 and in 1900. The latter eliminated virtually all livestock and left over six million people destitute. But there was no change in the government policy. After George Curzon became the Governor-General of India in 1898 the project of providing scientific and technical solution to the problem of famine received further encouragement.¹³ Even under Curzon, agricultural research remained the focus of attention. The Government's policy to impart technical education, particularly to the artisans was to tap the skill of artisanal

¹¹ For details, see, Zaheer Baber, *The Science of Empire*, pp.206-7. For a history of the Thomason Engineering College, see, K.V. Mital, *History of Thomason College of Engineering*, Roorkee, 1986.

¹² The nationalists always insisted on open enquiries to ascertain the economic condition of India. So the last few decades of the nineteenth century saw a number of enquiry committees being set up to look into the economic condition of the Indian population and the nationalist pressure played an important role into it. For details, see, Bipan Chandra, *The Rise and Growth of Economic Nationalism in India*, Delhi, 1966.

¹³ For details, see Zaheer Baber, *The Science of Empire*, pp.215- 220

classes for the purpose of using them in agricultural projects of irrigation and in the projects of PWD, for instance the railways. There was a temporary shift in the objective of the Government's general industrial policy in the early 1900 when in order to compete with the imports from Germany and China attempted to impart technical education to the artisans so that their traditional skills could be augmented by technological aids and introducing standardized patterns which were to be supplied by the colonial state. It tried to work out a model of workshops which was something in between the large-scale factory system and traditional artisanal *karkhana*. But it failed to appeal and attract the artisans and it remained an unsuccessful experiment, as we see in the micro level case study of the Lucknow Industrial School. Thereafter, the Government reverted back to its policy to use the industrial schools as centers for converting traditional artisans into technically skilled labor.¹⁴

The early nationalists agreed with the British that the immediate cause of the famines was the failure of rains but criticized the government for failing to control them through scientific measures like irrigation, unwillingness to buy food grains and a better system of food grains distribution with the help of the railways. For them, the aggravated effect of the famines was due to poverty which transformed scarcity in to famines and the reason for the poverty under

¹⁴ The Lucknow Industrial School became a purely technical school catering to the needs of the Railways and went on to become a Technical Engineering College.

the British rule was the progressive decline of the indigenous handicrafts and village artisan industries. Consequentially, an important source of national income and employment for millions involved in these traditional industries was lost. This created tremendous pressure on the agricultural sector for employment and led to the increasing ruralisation of the country with sub-division of holdings, over cultivation, cultivation of inferior and unproductive land and encroachment on village pastures and forests. It also led to disguised employment in the countryside and India was converted in to a supplier of raw materials to the metropolis and a market for their finished products. The protection, rehabilitation, reorganization and the modernization of the handicrafts was an important agenda in the early nationalist discourse. But although the revival and protection of the handicrafts industry was considered an important aspect of the nationalist debate, the emphasis was laid on large scale industrialization and modernization. The Nationalists leaders argued that large scale industrialization was the only solution for economic transformation. It would provide an alternative source of employment, reduce the flow of indigenous capital from the country and develop the culture, character, and intelligence in the country. For large scale industrialization, indigenously trained technicians were required. And for this the cheap native skill could be developed in the technical schools, colleges, institutes with government support employed in the departments of public works, forest, telegraph and the railways. The Nationalist criticism of the

colonial state regarding the Schools of Art and the School of Industry was that in the industrial section of the Government Schools of Art in Madras, Bombay, Calcutta and Lahore, instruction was imparted in crafts like cotton-weaving, pottery, engraving, enameling, wood – carving, gold and silver work and ornamental metal work and in the Industrial schools of the country, carpentry, smithery, shoemaking and tailoring were taught. But the nationalist objection was that the country did not need trained artisans, it required modern engineers.¹⁵

Thus, the demands of the nationalists were somewhat complementary to the needs of the colonial state.¹⁶ Both required skilled labor. And for this, the hereditary skills of the Indian artisan were to be tapped. Both the nationalists and the Indian state were not concerned about improving the social and economic position of the Indian artisan but to meet their respective agendas. And one of the sites to do it was the Industrial School.

INDUSTRIAL SCHOOLS:

1. The Initial History:

The first Industrial School was established by the late Canon Margoselsis at Nazareth in the Tinnevely

¹⁵ For details, see, Bipan Chandra, *The Rise and Growth*, Chapter 2.

district of the Madras Presidency. It provided instruction in carpentry, blacksmith's work, weaving and tailoring to enable the members of the Panchama caste of South India to earn their own livelihood because they would not be absorbed in to the existing artisan castes because they had taken up Christianity. Also after the 1877-78 famine, the orphaned children put under the care of Christian missionaries were trained in the Industrial Schools to become self-dependent. The carpenters and blacksmiths thus trained were employed in railway workshops and other organized industrial undertakings while the weavers and tailors earned their livelihood by supplying to an Anglo-Indian clientele. Gradually similar Industrial Schools came up all over the country for the Christian children and for the children of the Christian converts.¹⁷ They were initially supported by the missionaries, but later the Government, local bodies or private individuals started supporting these institutions.

In 1868, Mary Carpenter during her visits to India mentioned the need for low cost Industrial and Reformatory

¹⁷ *Report of the Indian Industrial commission, 1916-18*, pp.97-8. The report does not specify the time period of the Nazareth Industrial School. Gerald Studdert-Kennedy in 'Evangelical Mission and the Railway Workshop Apprentices: Institutionalizing Christian Presence in Imperial Bengal, 1885-1914' in *JICH*, Vol.33, No.3, September 2005, pp.325-348, talks of an evangelical Christian missionary Reverend Charles Bradburn of the Christian Missionary Society. He worked in the Nadia district of Bengal and was responsible for training Christian converts in carpentry to enable them to be employed in the railway workshops. Rudolph H. Fischer discusses the Basel Mission Experience in his article on 'Christianization and Social Mobility in Nineteenth Century South Kanara and Malabar A Look at the Basel Mission Experience' in G. A. Oddie (ed.), *Religion in South Asia: Religious Conversion and Revival Movement in South Asia in Medieval and Modern Times*, New Delhi, 1991.

Schools.¹⁸ In her report about the Reformatory and Certified Industrial Schools in India presented to Sir John Lawrence, the Governor General of India in Council, she strongly recommended and urged the Legislature to set up Certified Industrial Schools and Reformatory Schools for juveniles vulnerable to crimes and for older and hardened offenders respectively.¹⁹ In England, these schools, state and privately aided, were based on the principle of reforming the young criminals, urban poor, destitute by a moral and industrial training. There was an implicit idea that the reformation of these classes could take place only by instilling the habits of industry which would discipline them and make them capable of earning their own livelihood.²⁰

MacDonnell's 'Note' in 1886 took serious cognizance of the educational purpose of these industrial schools. Amongst the 45 Industrial Schools in the country, the majority including the oldest amongst them, the Nazareth Industrial School in the Madras

¹⁸ Mary Carpenter, *Six Months in India*, London, 1868. Mary Carpenter had taken an active part in the Reformatory Movement in England and having carefully studied the principles of prison discipline, had published "Our Convicts". In India, she had visited a number of prisons and institutions in the Bombay Presidency and worked on prison discipline, reformatories, lunatic asylums, government schools, and female education.

¹⁹ House of Commons Parliamentary Papers, 1877.

²⁰ Mary Carpenter, *Six Months in India*. For more on the subject, see, James Phillips Kay, 'On the Establishment of County or District Schools, for the Training of the Pauper Children Maintained in Union Workhouses. Part I' in *Journal of the Statistical Society of London*, Vol. 1, No. 1 (May, 1838), pp. 14-27; Earl D. Myers, 'England's Industrial and Reformatory Schools' in *Social Forces*, Vol. 11, No. 3, March 1933, pp. 373-78; H.W. Schupf, 'Education for the Neglected: Ragged Schools in Nineteenth-century England' in *History of Education Quarterly*, Vol. 12, No 2, Summer, 1972, pp. 162-183; Enrico Mayer, 'Report on the Infant Industrial Schools of Tuscany' in *Journal of the Statistical Society of London*, Vol. 7, No. 3, Sept., 1844, pp. 213-14.

Presidency, the Ratnagiri Industrial School and the David Sassoon Reformatory in the Bombay Presidency, the Industrial Schools in Punjab and the North Western Provinces were not serving any educational purpose. They were mere workshops and produced only inferior articles at exorbitant costs. To improve the status of the industrial school and make them more commercially viable, the 'Note' recommended that the affiliation of the Industrial Schools to a Central Institution and their incorporation into the Provincial educational system. This Central Institution, possibly an Art School, was required to collect information about the artistic traditions and workmanship in the Provinces, decide the industries that required encouragement and the stipends and scholarships to attract the students to the school and initiate new ideas and good designs in to school curriculum. This was an attempt to connect the Art School and the Industrial School as the two were till then functioning separately and were unable to cater to the commercial demands.²¹

In the case of the Lucknow Industrial School, there was an initial talk of affiliating the School to the Mayo School of Art, Lahore, but finally the School was modeled on the Technical School, Lahore. Thus, it is quite clear, that from the outset,

²¹ 'Note', 1886.

By 1886, these Industrial Schools were under the respective provincial educational departments or the departments of Public Instruction. Most of them had been set up as reformatories for the juvenile criminals. In 1861 and in 1866, Industrial and Reformatory Schools Act were passed to increase the utility of the Industrial Schools. For the initial history of the Industrial Schools in India, see, Mary Carpenter, *Six Months in India*, Chapter VI.

Lucknow Industrial School was quite specifically set up as a feeder institution of the Roorkee Civil Engineering College.

So, what was the kind of education that the industrial school planned for the son of an artisan? The curriculum of an industrial school comprised of general education and technical education. Two important conjunctures can be marked in the policy decisions regarding the curriculum of the Industrial School. The first was MacDonnell's *Note on Technical Education* of 1886²² and second was E.C.Buck's *Report on Practical and Technical Education* in 1901. Initially, in the 1880s general education was to be complementary to the technical education. By 1901, general education and technical education were separated completely. This was part of the broader technical education policy of linking up commerce and education, theory and practice.²³ This policy when implemented in the Lucknow Industrial School failed miserably. The problems in the implementation of these policies have been discussed in the following chapters at the micro level of the Lucknow Industrial School.

For the artisan in an Industrial School, drawing was the most important subject to convert him in to a

²² The proposal was supported by the *Resolution on Industrial Education and Industrial Survey of India, 1891*; *Sir Auckland's Colvin's Minute on Technical Education, 1892*; *Resolution on Technical Education, 1894*.

²³ E. C. Buck, *Report on practical and Technical Education, 1901*.

skilled artificer.²⁴ It was to be introduced at an elementary level in the schools because that formed the basis of technical education for the artisan.²⁵ 'Drawing with a rule and a compass'²⁶ trained the 'hand and the eye' of the workman or the artisan²⁷ to cultivate greater delicacy and penmanship which was a necessary preparation for hand training for the mechanical arts. Teachers from the School of Art would have to be trained to teach drawing skills to the artisans.²⁸

The artisan, according to Colonel A.M. Brandreth, the Principal of Thomason Engineering College, Roorkee, was to be taught technical drawing so that he could execute one or two special kinds of works with his hands, his skills learnt through patient, steady and continued application in manual labor. The artisan could learn his skills only by a steady and long continued application and by patient continuance in manual labor. He was in no need of theoretical knowledge. The skilled artisan or the workman was to be trained to construct figures from the rough, rapid, intelligible dimensioned sketches put down on paper by the engineer from the observation of the real solid thing. The artisan was only required to construct the product as per the engineer's direction and his imagination.

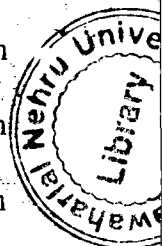
²⁴ Alfred Croft, *Review of Education in India*, c. 1884.

²⁵ 'Note', 1886; Home, Education, B, Proceedings, January, 1891, Nos. 14-15, in *Papers Relating to Technical Education in India*, (1886-1904), pp.36-37.

²⁶ The report of the Royal Commission on Technical Education in England

²⁷ Mr. Tawny, the Officiating Director of the Public Instruction in Bengali expressing his views in the 'Note'.

²⁸ E. White, the Director of Public Instruction in the North Western Provinces, P.E.D., NWPO, Vol.1, JAN-JUNE, 1893



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The teachers from the Art Schools could be called to teach the artisans in the Industrial School but the drawing of an art school and that of an industrial school were clearly distinguished by the official policy-makers. Art School drawing was more artistic and it was more about the application of the principles of design.²⁹

THE ART SCHOOLS:

1. The initial history:

The first Art School in India was established at Calcutta, renamed as the Government School of Art in 1865. Apart from this, there were the Bombay School of Art and the Madras School of Industrial Arts. The art school training aimed at developing the artistic and mental faculties of the student and increasing his knowledge and love of truth, beauty and industry. The training was not to be technical or commercial. If after passing out of the School of Art, one decided to follow more commercial pursuits and become builders, potters or goldsmiths, instead of becoming a painter or a sculptor even then they would have learnt some broad rudiments of fine art. There were

²⁹ This is the opinion of Colonel A.M. Brandreth, the Principal of Thomason Engineering College, Roorkee which he in his letter dated 21st December, 1887, wrote to Sir Auckland Colvin, the Secretary To Government, North Western Provinces and Oudh (NWPO). The training of an artisan and an engineer also had to be very clearly distinguished. It would be the engineer's job to make the design of a drawing marketable.

For details regarding the Art Schools, see, Tapati Guha-Thakurta, *The Making of a New Indian Art*, CUP, 1992 and Partha Mitter, *Art and Nationalism in Colonial India, 1850-1922*, CUP, 1994.

trained teachers in these schools appointed to supervise the rudimentary instructions in drawing, painting, lithography and engraving. Students were given instruction in drawing, painting, lithography, wood-engraving, pottery, and manufacture of good building materials and uses of plaster of Paris for house decorations.³⁰

The applied arts like geometrical drawing, lithography, and engraving were taught at the end of the curriculum in the Art School. The training started with the art of correct representation and that of good designing and ended with painting because it was believed that the Indians were not good in comprehending painting faculties. The Art Schools instruction, as was envisaged by the officialdom, pointed out to the Indians the best in their national art, both ancient and modern and also the exact reason why those particular works of arts were good and were specially worthy of imitation enabling the students to arouse an interest in the older works of art and to reproduce the fineness of those works. The theoretical framework required for such a faculty was to be supplied by the Europeans.³¹

In 1867, there were 25 Schools of Art all over the country. Initially the Schools were very poorly funded and around 1893 the Government even thought of abolishing them on reasons

³⁰ GOI, Education, August, 1874

³¹ Mary Carpenter, *Six Months in India*, London, 1868.

that they did not serve any useful purpose.³² The Schools were however not closed down and were symbols of state's control on the discourse of art. The art schools had two sections: the industrial section and the art section. In the industrial section a workshop kind of a system was organized for the manufacture of bricks, pottery etc for the government or for sale. In the Art section, geometry and drawing was taught and students were employed as draftsmen for the Public Works Department. In the art classes, instruction was based mainly on European principles of accurate representation of nature. The usual examples were from the South Kensington School of Art. In Madras, most of the students were from the families of artisans and craftsmen. But even then they seldom wanted to continue in the same professions or crafts as their fathers and they generally disdained from working with their hands. They would have preferred to work in some government or professional offices.

In 1874, an Industrial School of Art and Design came up at Lahore. Its objective was to improve the standard of the existing manufactures of the Province, the introduction of better tools and better utilization of the natural products of Punjab. Design and drawing were the two main subjects in the curriculum. Instruction in mechanics and the use of improved machinery and tools was also to form

³² The 'Note' also mentioned that the art schools did not serve any commercial purpose at all.

essential part of the curriculum.³³ The emphasis was on the workshops and practical instruction in mechanical art. John Lockwood Kipling was appointed the Principal of the Lahore School. Kipling encouraged the observation of village artisans practicing wood carving, furniture making, metal and other decorative handicrafts making and then tried to duplicate those working methods in the School. He was opposed to commercialization which he considered to be detrimental to the quality of the products. Metcalf sees it as connected to the larger idea of a

India.³⁴

1860s and 70s was also the time when the Art and Craft Movement was strong in England and there was a great attempt to revive designing which had been destroyed by the mass production of the goods in the Industrial Revolution. Metcalf has located the ideas of the movement in the broader perspective of romanticism and Anglo-Catholic revivalism of the 19th century which were opposed to the ideas of Victorian social change and tried to preserve the distinctions of status and custom and the powers of the Crown, landed elite and the state. For Metcalf, the movement was part of the Tory revival which had been triggered by the 1874 election of the Disraeli government.³⁵

³³ GOI, education, august, 1874.

³⁴ Metcalf, *Imperial Visions*.

³⁵ For details, see, Thomas R. Metcalfe, *An Imperial Vision*, London, 1989, pp.141-175.

Metcalf criticizes the pioneers of the Movement, William Morris and John Ruskin in England, for whom the Middle Ages embodied the spirit of craftsmanship and Indian arts like that of the Middle Ages were founded on real and natural principles. But they were not willing to compare the 19th century Indian society even to the Middle Ages Europe because the latter had always been progressive whereas the Indian society was changeless and timeless.³⁶ For them, the Hindu craftsmen were adept in the knowledge of patterns, they were naturally talented and had a wonderful delicacy of touch and were also very patient in executing their art. Wood carvings, silver works, textile manufactures, and the carvings on the Hindu temples were the examples of their talent. Their deficiency was however highlighted when they tried to carve out a human figure or the figure of an animal, for instance in the ornamentation or in the representation of their deities. The figures of the lions and the sacred bulls of the inner temple at Elephanta lacked

³⁶ The similarity between the pasts of the English and the Indian society was that both of them had been settled by the Aryans. The English past and the Indian present came together was the Indian village. Charles Metcalfe, Henry Maine, George Birdwood considered the Indian village community as an ancient and complex structure. Apart from art and styles of crafts work, the basic social institution of the village community was also one of the elements of the shared past between India and England. According to Maine, the village communities were governed by customary laws which had been preserved through the centuries and therefore were much identical to the systems of enjoyment and tillage by men of ancient Europe who were also grouped in village communities. George Birdwood considered the ancient Hindu Code of Manu which established the essentials of the caste system to have endured the village community over the centuries. Thus, there was an 'invincible immobility' within these village communities and this stability had enabled the Indians to pass on the industrial arts of antiquity unchanged through the centuries. J. Forbes Royle also agreed with this idea. He believed that the 'Hindus bent like willows to the storm and returned to their village lands' when the storm passed over.

accuracy of representation. To Ruskin, the inability of the Indians to represent the human figure properly in art reflected not just aesthetic but also moral shortcomings of an entire society. The remedy lay in educating these artisans and craftsmen in the schools of art where not only their artistic training but also their moral training could be conducted.³⁷

The Movement enthusiasts, Maine, Ruskin and Morris were against industrialization exposing the Indian village community to the world market of imported machine made goods, destroying its craft guilds, and forcing the artisans to produce at cheap rates. So in India the state was urged to preserve the Indian village society, traditional values, the princely states and landed elites and the British public was urged to change their attitude towards work and art so that they could perform the task of educating the Indian artisans.³⁸

The Art and Craft Movement influenced an alternative aspect of the Technical Education debate. Dhruv Raina and S.Irfan Habib locate this aspect in the alternative discourse of the proponents of the state intervention policy in India. They criticized the laissez-faire economics and the system of the economic appropriation of the British rule. For them, the traditionally skilled Indian artisan had to be taken in to cognizance while formulating any policy on

³⁷ Thomas R. Metcalf, *An Imperial Vision*.

³⁸ Ibid.

industrialization or technical education. Alfred Chatterton, the Principal of the Madras School of Arts, was one of the proponents of this view who believed that the Indian artisan had been left all by himself to combat his growing difficulties which had been augmented by the introduction of the capitalist system of production. Therefore, any process of industrialization or any policy of technical education in India had to first take in to cognizance the position of the Indian artisan so that industrialization in the country did not give rise to a social revolution as had happened in the West. And that is why the artisan and his creations had become so important. It was important for the artisan to find a place in the industrial future of India. The suggestions to protect the artisan and from large scale industrialization consisted of three main arguments: to provide the artisan with the modern technical education so that the artisan had the technical skills to compete in a modern technical environment, provision of general education so that the artisan developed an idea of the market and commercial organization, provision of capital so that the artisan can free himself from the clutches of the traditional system. For all these three programs, science and education or new knowledge was important. And the state was to intervene financially and institutionally on all the fronts. It was important to familiarize him with the markets and commercial organizations and help him to develop his skills. He would be provided with capital so that he could free himself from the clutches of the money lender. The attempt

was to take the artisan out of the caste based guild system or the traditional system of apprenticeship which was detrimental to innovation and imagination but was effective in preserving older designs etc.³⁹ Technical education was to retrieve the designing capacity of the Indian artisan and make him a skilled artisan by systematically reorganizing traditional knowledge and by making technical education itself both theoretical and practical. It was aimed at improving the method and technique of the artisan's rudimentary tools, his sense of measurement and precision required to geometrically represent a technological object which was mandatory for the standardization and the mass production of the industrial product. And the worthiness of the modern European machinery and tools and their improved products would be disclosed to the Indian artisans in the technological exhibitions.⁴⁰

The Lucknow Industrial School had attempted this project around the turn of the century and after the recommendations of the E.C. Buck's *Report on Practical and Technical Education, 1901*, came out. However, the attempt was a failure because

³⁹ Even the Art and Craft Movement believed that the complex social structure of India had preserved the arts and crafts traditions of the country over the centuries but it had also prevented the Indian artisans from any kind of development. The secured caste system had not exposed the Indian artisan to the challenges of the world market. The Indian artisan therefore could seldom be inventive and was stuck up in the age old conservative production methods. But such was the 'degree of excellence of the Indian arts', as Forbes Royle, one of the proponents of Movement, put it, that in spite of remaining static throughout the ages they were much more advanced than the other nations.

⁴⁰ Dhruv Raina and S. Irfan Habib, 'The Unfolding of an engagement: *The Dawn on Science, Technical Education and Industrialization in India, 1896-1912*' in *Domesticating Modern Science, A Social History of Science and Culture in Colonial India*, Tulika, 2004.

the artisans would not leave their workshops in the market and come to work in the closed environs of the school. The School thus reverted back to the status of a feeder institution to Roorkee and gradually towards becoming a full scale technical training school. In the *Report of the Indian Industrial Commission, 1916-18*, the School was termed as the Mechanical Engineering College and the history of the School was accounted from 1899. Its previous history from 1893 to 1899 had been completely omitted.

Conclusion:

MacDonnell's *Note on Technical Education*, 1886 initiated the technical education debate of the 1880s. It held that there was a need to emphasize practical education over literary education. One of the main reasons to initiate technical education was to encourage a variety of industrial occupations to reduce the pressure on agriculture. In the North Western Provinces and Oudh the *Note* can be analysed in the context of the Report of the Famine Commission of 1880. There was a need for skilled labour to be employed in the various Public Works Department projects in the state to curb the effect of the recurring famines. And the Lucknow Industrial School became one of the most important sites for the training of this category of skilled labor. The larger technical education debate however had another angle to it that of the preservationist zeal which emphasized the training of the artisan to

improve his productions through mechanization and cater to the wider market. The proponents of this debate were mainly influenced by the Art and Crafts Movement in England in the 1870s. However, this was never the dominant objective in the Industrial School of Lucknow. When such an experiment was attempted briefly in the School following E.C. Buck's *Report on Practical and Technical Education, 1901*, it failed because the artisan's refused to come to the School. The clash of interests between the state policy makers and the artisans regarding the various issues forms the point of analysis of the next two chapters.

CHAPTER 2: THE LUCKNOW INDUSTRIAL SCHOOL - THE GENESIS: 1892-1899

INTRODUCTION:

The history of the Lucknow Industrial School can be somewhat schematically divided into two phases. The first phase lasted from the setting up of the School in 1892 to 1896-1897 when the school was affiliated to the Roorkee College of Engineering. This led to changes in the School curriculum, which proved detrimental for its very existence. Even before this development the School was struggling to attract the artisans for whom it had been set up. But this phase, which lasted till around 1906-7, on several occasions, saw the school on the verge of closure. The School management tried to implement measures proposed at the 1902 Educational Conference but in vain. The conflict was over the balance between general education and technical education in the school curriculum. The artisans were attracted to the former but the education Department wanted the school to concentrate on technical and manual training and whenever the management tried to enforce this it faced a mass exodus of the artisans from the school. The first phase of the School is an account of this struggle between the artisans and the school management. After 1907 the Railway official indicated that the

school officials give up the idea of training boys to sit for the entrance exam to Roorkee Engineering College. railway officials and the dominance of Roorkee becomes less, the School somewhat stabilizes but the sources of this period also become rare and the account of the School comes across as annual reports. But in the Indian Industrial Commission report of the 1916-18, the school is described as a Mechanical Engineering College.

THE GENESIS: WHO IS COMING TO THE SCHOOL?

The Lucknow Industrial School was set up on the 1st of November 1892 at the Wing Field Manzil¹ for the sons of the railway artisans or the bonafide artisans, for the artisan classes of the city in general and for the children of the Eurasians and Anglo-Indians to create 'a superior class of workmen'. For the bonafide artisans, attendance to the school was compulsory and free of cost.² 20% of the seats were reserved for the children of the poor Eurasians and Europeans of the city.³

¹ See Appendix 1.

² PED, NWPO, 26th October, 1892, Vol. 1, Jan-June, 1893, Progs. No.256.

³ PED, NWPO, 15th December, 1892, Vol. 1, Jan- June, 1893, Progs. No.262.

The population of the Europeans in the Lucknow city was 4,222 and that of the Eurasians were 760 according to the *Gazetteer of Oudh*, 1877-78.

A. Eurasian and Anglo-Indians of Lucknow:

By the end of the 19th century, the Eurasians and the Anglo-Indians formed nearly half of the European population in India. They generally belonged to the families of the British soldiers and were employed as semi-skilled workers, intermediaries in the government departments and private European enterprises, as domestic servants, nurses, mid-wives, clerks, teachers and shop assistants for the European employers. They formed a link between the European officers and low grade Indian subordinates in the police, on the railways and public works, in jails, factories and engineering works. Below this section were those who had been termed as orphans, vagrants, prostitutes, convicts and lunatics.⁴

The lowest rung of this society consisted of the poor Eurasians and the Europeans of low income who worked in the technical departments of government and the railways. They formed a depressed and volatile element, unsure of employment, but deeply committed to ideas of European dominance. Incidents of racial conflict were particularly associated with them, as they were more often in competition with Indians for the jobs and lived along the railway line. These poor Anglo Indians and the Eurasians were dependent for their jobs in the railways, the Post

⁴ David Arnold, 'European Orphans and Vagrants in India in the Nineteenth Century' in *Journal of Imperial And Commonwealth History (JICH)*, 7 (1979), 106-14. Some other literature on the subject is David Arnold, 'White colonization and Labour in nineteenth century India' in *JICH*, 11, January 1983, no. 2, pp. 133-158. For a detailed discussion on the history of white colonization see, Harald Fischer-Tine, 'Britain's other civilizing mission: class prejudice, European Loaferism and the workhouse system in colonial India'.

Office, and other technical departments of the government. But throughout the 1870s, the government had attempted to increase technical education among Indians and established much more stringent controls and examinations.⁵

A major influx of Europeans from the working class background began in the early 1850s mainly in connection with the construction of the Indian Railways and Telegraphs and gained in intensity during the following decades till the 1870s. They mainly worked as platelayers, fitters and firemen in the railways. In the 1880s and the 1890s, under pressure from the Government of India, the railway companies established schools of their own in the hills and also helped to finance hill schools which took railway children. But apart from the military and railway orphans for whom the special schools existed poor European children remained in the cities of the plains and there received a decidedly inferior education.

Another development was that from the 1860s and the 1870s, railway companies with the urgings of the government began to train Indians as railway operatives and supervisors. This was partly due to the fact that the Indians could be employed on lower rates and also due to the increasing incidences of violence

⁵ C.A.Bayly, *The Local Roots of Indian Politics, Allahabad, 1880-1920*, OUP, 1975, pp.52-57.

involving the Europeans. This policy of the government led to high turnover of the European subordinates.⁶ Upward social mobility for the poor whites steadily decreased during the 1870s as employment opportunities for the unskilled and the semi-skilled Europeans contracted sharply during this period with the Indianisation of many subordinate and even intermediate posts in government and private employment and with the reaction against the expense, the unreliability and the difficulties of employing the European subordinates.⁷

Their deteriorating condition led to many private individuals and organizations to take up their cause. W.A Symonds the Honorary Secretary, Friend – in- Need Society, pleaded the case of the poor whites in 1884 to do something to improve the increasing degradation and pauperism of poor country born Europeans and Eurasians.. He referred to Lord Canning's thoughts that if the descendents of the lower and middle classes of the Europeans were not educated they would in time exhibit the worst qualities of the natives and become unmanageable as well profitless. In the 1880s, half of these people did not have any career open to them except becoming vagrants, beggars or dependents on charity. The one very important way to train them for employment was to give them technical instruction in workshops. There was a great and increasing demand for skilled labour that ought to be supplied in the country itself.

⁶ For details, see, David Arnold, 'European Orphans and Vagrants in India in the Nineteenth Century', p.119.

⁷ Ibid. p. 123.

Mechanics that came from England at great cost only aggravated the evil. Their children he declared became paupers, vagrants or criminals.⁸

Symonds hoped that the policy of fostering arts and manufactures together with the extension of railways would provide employment for great numbers of skilled mechanics.

In the 1870s, the population of the Europeans in the Lucknow city was 4,222 and that of the Eurasians were 760.⁹ It is striking that in the Gazetteer of 1877-78, the Europeans or the Eurasians were not discussed separately nor were the educational institutions separate.¹⁰ When the Lucknow Industrial School was set up in 1891, 10% of the free students were to be Europeans and Eurasians that is amongst 120 free students, 20 were to be the sons of the poorest Europeans and the Eurasians.

But in educational qualifications they were no match for the natives educated in Anglo- vernacular or English schools where a higher intellectual training was available. Even in manual crafts or industries for want of being trained at a right age when deftness of hand could be acquired under skilled instructors they

⁸ Proceedings of the Education Department of the NWP&O, 11th August, 1884, vol. 1, Jan-June, 1893.

⁹ *Gazetteer of Oudh, 1877-78*

¹⁰ Veena Oldenburg Talwar, *The Making of Colonial Lucknow*, OUP, 1989, pp. 242-246 has described the lifestyle of the European elite in Lucknow. One can also get a glimpse of the interaction between the Indians and the Anglo-Indians in the Lucknow of 1930s from Attia Hossain, *Sunlight on a Broken Column*, Penguin, 1988.

would remain incompetent.¹¹ Bayly mentions for Allahabad that education was available to the poor sections of the Europeans in a number of state aided and sectarian schools but its cost was high in comparison with the income of the average Anglo Indian or Eurasian worker.¹²

In the Industrial School of Lucknow these poor whites would be able to learn not only English but also Urdu and Hindi, a knowledge that very few of them acquired in the European schools aided under the Indian Code. Like in Burma where the natives and the Anglo-Burmese studied freely together in the same schools, in Lucknow too the Industrial School would provide a chance to the East Indian pupils to learn drawing, carpentry and probably iron work along with those of the Indians. After leaving the Industrial School they would have to prove themselves fit to be admitted to the railway workshops, they would at least have a healthy and useful career open to them where regular work could be found and regular wages could be earned 'not under a scorching sun nor under the unfavorable circumstances of an Indian street but under the double shelter of the workshops roof and supervision by professionals who are of the same race as themselves'.¹³

Thus these poor Europeans and Eurasians were in an unenviable position. The government though making some concessions clearly accorded low priority to their needs and

¹¹ PED, 11th August, 1884, vol. 1, Jan-June, 1893.

¹² C.A. Bayly, The local roots of Indian politics.

¹³ Ibid.

aspirations. Conversely the government focused on the need to enroll from the scions of the industrial workers of Lucknow to the fledgling Lucknow Industrial School. The question now arises as to who constituted the Industrial classes of Lucknow.

B. The Industrial Classes of Lucknow:

In the 1870s, the industrial classes of Lucknow comprised of the carpenters, blacksmiths, potter, the 'chamar' or the leather workmen, weavers, dyers, bangle-makers, brass-workers, various dealers of food. The condition of the weavers was quite miserable due to competition from the cheap, finer, machine-made European cotton goods which were by that time being universally worn. Although these clothes were not very durable, they were quite popular amongst the public who used them as dhotis, chadars, shawls and kamarbands. The Hindu Koris and the Muslim Julahas were the ones who practiced weaving. Their economic position was quite weak and they did not work half the time in the year and at places their trade was on a standstill. Sometimes during the harvest time the Koris were employed as reapers. But the Julahas, it was believed, would not diversify their profession and continue to practice weaving.¹⁴ But in fact, the Julahas of the city were fast leaving the city and turning to some other vocation. Amongst the other industrial classes of the city were the carpenters or the

¹⁴ *Gazetteer of Oudh*, 1877-78

Barhais, the carpet weavers or the Dari-bafs, weavers of silk or the Daryai-bafs, tailors, metal workers, the manufactures of perfumes, makers of gold and silver lace, and the practitioners of the chikan work. The best workers of the chikan embroidery were Muslims who formed a small settlement on the north side of the river at Hasanganj and Chauk areas of the city.¹⁵

The number of people involved in weaving cotton fabrics in 1901 was 4,059 and was still being practiced by the Hindu Koris and the Muslim Julahas and Behnas.

OBJECTIVES OF THE SCHOOL:

The government taking into account this socio-economic profile of the Industrial classes of Lucknow decided on certain objectives for the school.

The objective of the school was to give instruction in carpentry and drawing so that the students could be employed as apprentices in the railways and other large workshops. Reading, writing, arithmetic, elementary mechanics and physics were also included in the curriculum but the main emphasis was on manual training in workshops by professional instructors. The Department of Public Instruction,

¹⁵ W. Hoey, *Trades and Manufactures of Northern India*, 1888.

which outlined the course structure, laid down certain definite standards for drawing and industrial training.¹⁶

The Lucknow Industrial School was modeled on the Railway Technical School, Lahore set up with similar objectives. The tools and the drawing master for the Industrial School, Lucknow came from Lahore. The curriculum of the Lahore School was also similar to the Lucknow School incorporating English, vernacular subjects, drawing and carpentry. Initially the Lahore technical school had found it difficult to attract students but gradually the demand picked up and became so great that the school had to be restricted to the sons of the railway artisans.¹⁷

One of the members of the management committee of the Lahore Technical School was the Principal of the Mayo School of Arts in Lahore. The Mayo school accorded priority on instruction in design and its application to the manufactures and the architecture of the Province. The designs had to be exclusively Indian or oriental in nature.¹⁸ The Central Lahore Technical School however aimed at an instruction, which would draw upon the existing pool of artisans and reshape their skills.

¹⁶ Ibid.

¹⁷ Ibid. Appendix B. Progs. No. 233 (b).

¹⁸ GOI, Home, Education, August, 1874.

E. White, the Director of the Public Instruction and Lieutenant Colonel D.G. Pitcher, Director of the Department of Land Records favored the setting up of an art school. White felt that drawing would improve ingenuity, skill, and dexterity of the pupils, help pupils in comprehend a map, improve their knowledge of geography, ordinary drawings and surveys and constitute the initial step for training in mechanical and manual arts. But the art school curriculum in the Province would have to provide for entry in to the mechanical apprentice class of the Roorkee Civil Engineering College. Both White and Pitcher wanted to draw upon the artisan population arguing that they possessed hereditary skills which would make it easier to train them. This training would help in improving the artistic manufactures of the province.¹⁹ The problem was that the art school would also be expected to bring up some students to a level which would allow them to grasp the mechanics.

Another committee member S. Mohammad Hussain, Fellow and Member of the Faculty of Arts, Allahabad University, had a very different perspective. For

¹⁹ E. White, Director of Public Instruction, NWPO to Secretary to Government, NWPO, PED, NWPO, 19th March, 1888, Vol. 1, Jan-June, 1893, Progs. No.18.

him, the imperative was to expand industrial employment through a system of apprenticeships in the business firms and workshops. He held that the practical application of technical education was more important than theoretical knowledge. Official intervention shifted focus on expanding employment opportunities for technically educated people especially in the North Western Provinces where industrial development lagged.²⁰

M.J. White, the Principal of the Canning College, felt industrial schools were specially needed for the sons of the artisans.²¹ General education encouraged him to despise his father's occupation and aspire to become an ill paid clerk. Industrial school training would, on the other hand, help him to fine - tune his hereditary skills and become a skilled workman. The reason which White gave for such a suggestion was that 'the artisan's son whom nature had unfitted for the study of the higher mathematics and philosophy should

²⁰ S. Muhammad Hussain, M. R. A.C, Fellow and Member of the Faculty of Arts of the Allahabad University, *Note on Technical Education in India*.

²¹ The Canning College was established in 1864 and was supported by the landlords or the talukdars of the Province. *The Gazetteer of Oudh*, 1877-8 recorded that one percent of the students in the college were the sons of the artisans and the manufacturers.

However, when the Industrial School was established the 'respectable native gentlemen' of the Province agreed to send their sons to the school so that they acquired some industrial training which was otherwise only provided in a dirty bazaar shop. Nesfield, Director of the Public Instruction to Secretary to Government, NWPO, 11th July, 1893, Vol. 2, July-Dec, 1893.

be saved from spending some of the best years of his life in a college, striving to achieve the unattainable and would be allowed to earn an honest livelihood in a goods shed, an office, or a shop'.²²

Thus, officialdom was primarily concerned in tapping the hereditary skills of Lucknow's artisan population and turn them in to skilled workmen.²³ After 1896-97, this was reinforced by the additional imperative of channelising students to the mechanical apprentice class of the Roorkee Engineering College. The Lt. Governor's inaugural speech at the opening ceremony of the School envisaged it as a possible link to the Roorkee College.²⁴

TEETHING PROBLEMS:

However the school had to surmount a host of initial problems.

Most of the artisans drawn to the school were extremely poor

²² M. J. White, Principal, Canning College, Lucknow to the Under Secretary to Government, NWPO, PED, NWPO, 25th September, 1891, Vol. 1. Jan-June, 1893, Progs. No. 54.

²³ The entire length of the Oudh and the Rohilkhand Railway communication system was 52 miles in 1877-8. For details, *Gazetteer of Oudh*, 1877-8. Its workshops, to the south of the Charbagh station, employed many Europeans and Eurasians including several people of the Martiniere School. For details, see, Nevill, H.R., ed. *Lucknow: A Gazetteer*, vol. 37, *District Gazetteers of the United Provinces of Agra and Oudh*. Allahabad, 1904.

For the effect of the railways upon the rural economy of the Provinces, see, Ian Derbyshire, 'Economic Change and the Railways in North India, 1860-1914' in Ian J.Kerr ed. *Railways in Modern India*, OUP, 2001

²⁴ *The Pioneer*, 5th April, 1892.

and the major attraction of the Lucknow Industrial School was an opportunity to learn English and receive some general education free of cost. Some also wanted to learn drawing so that they could become draughts men. The major pull therefore was precisely that aspiration to improve their social status, which officials wanted to discourage. This explains the anxiety of the Lieutenant Governor, Mr. Crosthwaite on a visit in 1893 he noticed three or four boys 'who had no intention of learning anything other than drawing'. He suggested that the school be named 'School of Manual Training' to make it very clear that its objective was not to offer a general education. He also suggested that the English course should be a very basic one and that the students above the age of fourteen should be kept to manual training alone.²⁵

His recommendations were not implemented because the management committee protested that that any plan of withdrawing general education would lead to an exodus of the students. The course of English prescribed was already a very elementary one, barely enough to make the students comprehend the working drawings and the written

²⁵ In the beginning, the age bar was fixed at 8 years as the lower limit and 12 years as the upper limit.

For details regarding the changes in the qualifying age, Crosthwaite, Lt. Governor, NWPO in his Minute on the Lucknow Industrial School, PED, NWPO, 7th March, 1893, Vol. 1, Jan - June, 1893, Progs. No. 270.

orders in railway workshops and to understand the instructions of the supervisors who were mostly Englishmen. If the students above the age 14 were to be given only manual training then they would not come to the School at all because they came to with the hope of getting some general education. In any case the the School did not particularly want to encourage students to come at that age because the younger the artisans the better the dexterity of hand and the easier to train them. The initial beginnings were not promising. When the school was started in 1892, there were 85 students on the roll. By August 1894, 38 boys had left the school.²⁶

The assessment was that students were so poor that they could not afford to continue. They left after a minimum training, which was enough for a job at trifling wages.²⁷

Why were the artisans leaving the school even after the school was offering them free general education, which included English, scholarships to go to the Roorkee College to attend the special survey class which would

²⁶ T.C Lewis, Director of Public Instruction, NWPO to Secretary to Government, NWPO, PED, NWPO, 8th May, 1895, Vol. 5, June-Jan, 1897

²⁷ Ibid.

keep the artisans long enough in the school to turn them in to better workmen?²⁸

One way was to offer the artisans monetary inducements and relaxation in the attendance so they could continue to work in the market while studying. But in order to compensate for the loss of half a day work in the bazaar a concession was offered. But even this did not work. Even so in 1894-5 and 51 of them had left. This included the sons of the railway artisans. To improve the situation the Directors of the Lucknow Iron Works were secure the pupils of the School.²⁹ One of the ways was to offer scholarships³⁰ and this had an encouraging result with the enrolment picking up from 106 to 160 in 1895.³¹

At this point a committee headed by Lt. Colonel John Clibborn³², the Principal of the Roorkee Engineering College, in 1896, recommended the

²⁸ Ibid.

²⁹ Ibid.

³⁰ Inspector of Schools, 2nd Circle, NWPO, to Director of Public Instruction, NWPO, 30th August, 1895; Locomotive and Carriage Superintendent, Oudh and Rohilkhand Railway, to Inspector of Schools, 2nd Circle, NWPO, 16th August, 1895; Superintending Engineer, 2nd Circle, Provincial Works, NWPO, to Inspector of Schools, 2nd Circle, NWPO, 28th August, 1895, PED, NWPO, Vol. 5, Jan-June, 1897.

³¹ W. N. Boutflower, Director of Public Instruction, NWPO, to the Secretary to the Government, NWPO, 2nd May, 1896, PED, NWPO, Vol. 5, Jan-June, 1897.

³² John Clibborn was the Principal of the Roorkee College from 1892 to 1902. Before this he had served the Public Works Department (henceforth, PWD) and worked in numerous canal projects in the Terai region and also in the Sarda Canal project. For details, see, K.V. Mital, *History of Thomason College of Engineering*, 1986.

affiliation of all the technical schools and industrial schools of the province, to the Roorkee College of Engineering. The idea was to make it the controller of the engineering training in a position to shape or standardize engineering and mechanical training in the province through the cultivation of scientific knowledge or manipulative skill. This would fulfill the demand for trained mechanics and handicraftsmen. The Principal of the Roorkee College would be the ex-officio³³ visitor to these schools. The students from these industrial schools would be given the chance to study at Roorkee, teachers and tools from Roorkee would be sent to the schools.³³ Significantly, around 1896, the Roorkee College revised its training facilities to include artisans and craftsmen to its usual crowd of electrical and mechanical engineers and technicians. The government was keen to develop livelihood sources other than agriculture and train such people who would be potential entrepreneurs of small industrial works in the.³⁴

³³ *Proceedings of the Committee appointed by His Honor the Lt. Governor to consider the expediency of bringing the Lucknow Industrial School and other similar schools in to connection with the Thomason College, Roorkee.* Nainital, Saturday, 6th June 1896, Vol. 5, Jan - June, 1897.

³⁴ There was considerable expansion in the Roorkee College after Clibborn became the Principal of the Roorkee College in 1892. In 1896, the mechanical and the industrial apprentice classes and a few lower level courses to train foremen, technicians and skilled workers were started. Before that in 1894, to systematize the functioning of the College, the Committee of Management was constituted and the College was affiliated to the Allahabad University. For details, see, Mital, *History*, pp.148-151.

The school curriculum was restructured to the requirements of the mechanical apprentice class in the Roorkee College of Engineering. The students who were between the age group of 15 to 18 years and who had passed the Upper Primary standard for Anglo-vernacular schools standard in other provinces were eligible for admission.³⁵ The rest would be given the option of practicing some independent trade when they left the school.³⁶ The school's curriculum stressed on manual education in carpentry, blacksmith's work, glass blowing and clay modeling and curtailed general education which included Elementary English, Vernacular, Mathematics, and Elementary mechanics.³⁷

Despite the recommendations of the Clibborn committee the Lucknow Industrial School continued to accord priority to manual training courses even though some technical courses were introduced. Elementary English was retained because it made it easier to comprehend the technical subjects and interact with English masters easier. However it was so elementary that students could not qualify for Middle English

³⁵ *Proceedings of the Committee*, 6th June, 1896, Vol. 5.

From Lt - Colonel J. Clibborn, Principal, Thomason College, Roorkee to Secretary to Government, NWPO, 22nd June, 1896, Vol. 5, Jan - June, 1897.

³⁶ Minutes of a Conference, 17th November, 1898, PED, NWPO, Vol. 10.

³⁷ *Proceedings of the Committee*, 6th June, 1896.

or the Matriculation examination.³⁸ Only the sons and nearest relatives of the artisans were admitted as free students in the school and not the general poor population of the city.³⁹ A professional cooper was appointed; arrangement was worked out with the Kanpur Woolen Mills to offer internships to students who completed a course in dyeing so that they could get a practical experience of the industry that they learnt in the School. The agricultural department was being consulted to examine the prospects of the glass etching industry before it was introduced in the school curriculum.⁴⁰ A few government railway companies the East Indian, Oudh and Rohilkhand, Indian Midland, Bombay, Baroda and Central Indian Railway Companies were approached for appointing apprentices from the School replacing the European and the Eurasian mechanics. This would reduce government expenditure as well as promote technical education in the province.⁴¹

³⁸ *Code of Regulations for the Industrial School, Lucknow* by T. C. Lewis, Director of Public Instruction, NWPO, Vol. 6, July-Dec, 1897.

³⁹ *Ibid.* The total number of free students in the school was 120. Amongst these 20 were the sons of the poorest Europeans and the Eurasians. In the remaining 100 sons and the nearest relatives of the railway artisans or the bonafide artisan were preferred.

⁴⁰ *Proceedings of a meeting of the Committee of the Managers of the Industrial School, Lucknow, held in the Industrial School, 15th February, 1897*, Vol. 5, Jan-June, 1897.

⁴¹ T. C. Lewis, Director of Public Instruction, NWPO to Secretary to Government, NWPO, 12th July, 1897, PED, NWPO, Vol. 6, July-Dec, 1897.

The new curriculum soon ran in to trouble. The priority over manual instruction meant devoting six to eight hours per day to it and night classes were arranged as supplements for general education to fulfill even the minimum requirement for mechanical apprenticeship in Roorkee. Lt. Colonel Clibborn, the Principal of the Roorkee College, was discontented with the standard of general education of the recruits from the Industrial School.⁴² The artisans were unable to take the pressure of long hours in the school, the high standard of manual training and the need to cope with the general education portions on their own. They began to desert the school.⁴³ After the new rules came into force in July, 1897 the number on the rolls had fell down from 170 to 117, the average daily attendance from 138 to 105 and the percentage of attendance from 80 to 73.⁴⁴

To put the school back on track, the total duration of the course structure was increased to nine

⁴² T. C. Lewis, Director of Public Instruction, NWPO to Secretary to Government. NWPO, 24th September, 1897, PED, NWPO, Vol. 10, July-Dec, 1899.

⁴³ Headmaster, Industrial School, Lucknow, to Inspector of Schools, 2nd Circle, NWPO, 2nd November, 1897, PED, NWPO, Vol. 10, July-Dec, 1899.

⁴⁴ Ibid. The new rules implied that the duration of the total course structure of the school was shortened from 9 years to 6 years and an increase in the per hour working of the school day. The students felt overworked and withdrew from the school.

years ⁴⁵ and the qualifying age group of students meant for Roorkee was increased from 15-18 to 18-20 years. It was hoped that this alteration would secure a much older and a better educated class of boys for the college.⁴⁶ But Clibborn preferred the maximum age limit of admission to the mechanical apprentice class to be 16 years. If the upper limit of the admission to the course was increased to 20 then by the time the students completed their mechanical course they would be 25 years old. This would make them unfit for a government job.⁴⁷

TOWARDS A TECHNICAL SCHOOL

The turn of the century proved to be significant for the School. In 1899, a few significant things took place. The latest tools such as an aluminum training course in the school was introduced by Mr. Chatterton of the Madras School of Arts. There was also a lot of discussion about replacing the School headmaster by someone who was a more skilled workman. On the Provincial level, grants were offered

⁴⁵ T. C. Lewis, Director of Public Instruction, NWPO, to Secretary to Government, NWPO, 14th April, 1898, PED, NWPO, Vol. 10, July-Dec, 1899.

⁴⁶ L. M. Thornton, Secretary to Government, NWPO to Principal, Thomason College, Roorkee, 7th June, 1898, PED, NWPO, Vol. 10, July-Dec, 1899.

⁴⁷ Major Gale, Principal, Thomason College, Roorkee to Secretary to Government, NWPO, 6th August, 1898, PED, NWPO, Vol. 10, July-Dec, 1899.

to all the technical schools which were to be affiliated to the Roorkee College.⁴⁸

The Lucknow Industrial School was affiliated to the Roorkee Engineering College in 1899. The Principal of the College became the ex-officio visitor. In this change of policy the School was envisaged as the premier technical school of the province. In accordance with these changes the government sought to bring about certain changes in the administrative structure of the school. The accent was on recruiting a technical specialist to head the school. The day of the non-specialist was over. Consequently the college contemplated replacing the headmaster of the school, Babu Tara Prossano Banerjee.

Who was Babu Tara Prossano Banerjee?

Babu Tara Prossano Banerjee was the first headmaster of the Lucknow Industrial School. His family lived at Lucknow, which is why he gave up a better paid job as the Superintendent of the Bayley Technical School at Rangpur in the Lower Provinces. The other reasons were ill health and the prospects of pension from the Lucknow Industrial School.⁴⁹

⁴⁸ L.M. Thornton, Secretary to Government, NWPO to Director of Public Instruction, NWPO, 10th June, 1899, PED, NWPO, Vol. 10.

⁴⁹ T.C. Lewis, Director of Public Instruction, NWPO to Chief Engineer, PWD, NWPO, 27th June, 1899, PED, NWPO, Vol. 10.

He had passed out from the Sibpur Engineering College of Bengal. His supervisor was Mr. Fouracres, a reputed teacher and more importantly a 'European expert' who would encourage him to read modern text books on workshop practices such as Shelley's Workshop Appliances, Mitchell's Carpentry and Engineering Workshop Practice, Weatan's Modern Workshop Practice.⁵⁰

Tara Prossano's working experience was impressive. After passing out from the Sibpur College, Bengal, he became the head of the Williamson School at Sibsagar, the only technical school of Assam and thereafter was the head of the Bayley Technical School at Rangpur, a principal technical school of Bengal. For some time he was also the Second Master of the Engineering School at Dacca. Apart from all this he was posted in some of the technical schools in Bengal, the Oudh and Rohilkhand Railway Workshops at Lucknow, the Railway Technical school, the Mayo School of Art at Lahore, the Municipal Technical School at Amritsar, at the Canal Foundry and Workshops at Roorkee. At most of these places the work was accomplished under the supervision of the Europeans. From his experience Tara Prossano held the Lucknow Industrial School at par with all the institutions he had worked in, especially the wood and the iron work that was done by the students of the School.⁵¹

⁵⁰ From Tara Prossano Banerjee to Director of Public Instruction, NWPO, 31st July, 1899, PED, NWPO, Vol. 10.

⁵¹ Ibid.

Tara Prossano's removal as the Principal of the School was quite a debated issue in the official circles of the Province. The officer who favored him the most and was against his removal was Mr. T. C. Lewis, the Director of the Public Instruction. He was impressed with Tara Prossano's work saying he took genuine interest in the School and encouraged the introduction of the new industries. Another official who spoke in favor of the Principal was the Inspector of Schools. The headmaster was not a skilled mechanic but was otherwise quite versatile. He could take care of the accounts, stores, discipline, taught mechanics and intelligently controlled the work of his staff. At Sibpur, he had got lessons on mathematics, surveying, drawing and engineering and received some practical training in the Calcutta workshops as a foreman mechanic in practical carpentry, fitting and forge work. Thus, Tara Prossano was fit to teach general subjects and intelligent enough to supervise drawing, carpentry and smith's work.⁵²

The Inspector of schools, 2nd Circle, Mr. Cardew also agreed with Lewis that it would be difficult to replace Tara Prossano. A skilled, specialist workman would be capable of teaching one particular trade but there were doubts if he would be able to look after all the faculties that make up an institution. The headmaster ought to be proficient in all respects and Tara Prossano satisfied this requirement.⁵³

Apart from these three officers who were very vocal in their support to

⁵² Report of Meeting of the Committee of Management, Roorkee Engineering College held at Nainital on the 3rd August, 1899, PED, NWPO, Vol.10.

⁵³ Ibid.

the Principal there were others who over the seven years that the School had been established spoke highly of its success. However, it is important to note that these officials held the posts of the Director of Public Instruction and that of the Inspector of Schools at different times. The principal's replacement was talked about only after the School was affiliated to the Roorkee College.

The first demands for appointing a skilled workman and or an industrial artisan who could be a specialist in one particular trade for the post of the principal of the Industrial School were raised by the Lt. Governor who wanted to secure the services of a competent man with the help of the Chief Engineer, Buildings and Roads Branch and Colonel Clibborn, the Principal of the Thomason College, Roorkee.⁵⁴ The latter and Mr. Lewis, the Director of Public Instruction also developed some differences regarding the particular matter about the removal of the School Principal.⁵⁵

The final orders for the removal of Tara Prossano were passed by the Management Committee of the Thomason Engineering College which declared at Roorkee. The Committee comprised of the Chief Engineer, Public Works Department, Buildings and Roads Branch, N.W.P.O. and the Lieut. Col. Clibborn, Principal of the Thomason Roorkee College and the ex-officio visitor of

⁵⁴ From Secretary, NWPO to Secretary, Home Dept., 14th September, 1899, PED, NWPO, vol. 10.

⁵⁵ From T.C. Lewis, Director of Public instruction, NWPO, to Secretary, NWPO, 17th August, 1899, PED, NWPO, vol.10.

the Industrial School. The Committee declared, '...neither in respect to education or mechanical training was he a suitable person to put the Lucknow Industrial School on a sound footing as a pioneer school in which students will be trained to enter the mechanical classes at Roorkee.....In the present initiatory stage of industrial training in the North Western Provinces and Oudh, it is essential to have a man who has had that technical education and training which can only at present be obtained in England or Scotland. A man who has been educated on a proper system in a high class technical school is required.'⁵⁶

This clearly proves the fact that the step was linked up with the larger policy decisions of the state to convert the school into a feeder institution to Roorkee College.

Tara Prossano was replaced by Mr. Swinchatt from England, a mechanical engineer and had been employed as a foremen mechanic in the engine works in England, was appointed as the Head Master of the Industrial School. Mr. Swinchatt's qualification was to be similar to the newly appointed Technical Instructor of the Thomason Civil Engineering College, Mr. D. Maclaren.⁵⁷ His appointment followed the Educational Conference at Shimla where a number of resolutions were passed and one of them was regarding the need to import the teachers from England. The Conference discussed the

⁵⁶ From Secretary, NWPO to Secretary, Home Dept., 14th September, 1899, PED, NWPO, vol. 10.

⁵⁷ Ibid.

need to encourage the local industries of a particular place through the medium of industrial schools.⁵⁸

The best type of the industrial schools was the trade or the craft schools where particular local trades or industries were encouraged. They were to be educational and not commercial institutions. In the villages these schools would concern the development of a single particular indigenous craft and in the city they would be related to the manufacturing industries and the several industries could be collected in the same building. The students would be admitted to the school on the assurance that they would continue the practice of the particular trade taught in the school. The students would not have to pay any fees. Fees would only be levied on the students without endangering the stability and the popularity of the schools. Grants -in-aid would be granted to the private agencies encouraging the craft schools.⁵⁹

But such schools encouraging the local industries could be set up only after the industries of a particular place had been studied and for this industrial surveys would have to be carried out. It was also decided that the industries to be encouraged would have to be studied by competent observers who then in turn would be required to train the teachers who would teach in the industrial or the

⁵⁸ Home Dept (Education) to Secretary,NWPO,20th November, 1901, PED, NWPO, Vol.14.

⁵⁹ Ibid.

craft schools. In case of shortage of the teachers or their trainers they could be imported from England.⁶⁰

Soon after his appointment, Mr. P.H. Swinchatt was asked to collect information about various industries from the various districts of the Province – weaving from mainly Azamgarh, Faizabad, and Aligarh, calico printing from Farukhabad, brass work from Benaras, Lucknow, and Moradabad. Within Lucknow, he was to survey the principal artisan workshops in the city. He was accompanied by the Inspector of Schools, G.N. Chakravarti and an assistant master of the Industrial School, M. Radha Kishen. The industries which were considered for the survey included embroidery or the manufacture of chikan(art muslin), calico printing, manufacture of silver ware, bidar or inlaid work including zarbaland (relief work), clay modeling. A copper ware manufactory was also visited. Brass work, clay modeling, calico printing, tar kashi were the industries which were finally considered for training in the Industrial School as part of the Conference resolution. All the shops which were visited for the survey were owned by the master artisans or large employers of artisans.⁶¹

It is worth while to have a sense of the condition of the artisan industries at that time in the North Western Provinces.

⁶⁰ Ibid.

⁶¹ Secretary, NWPO to Director of Public Instruction, NWPO, 7th December, 1901, PED, NWPO, Vol. 14

CONDITION OF THESE INDUSTRIES IN THE PROVINCE:

A. Brass Work:

G.S.Dampier, C.S, in his 'Monograph on Brass and Copper Wares, N.W.P.O., 1894 mentioned that the making and the retailing of the brass and the copper wares were only theoretically practiced by the Kaseras and the Thatheras who were the hereditary copper and brass workers.⁶² In practice, people from all castes, from the upper caste Brahmin to the Lohar or the iron worker, the Sunar or the gold worker, Kunbis or the agriculture caste, the Kalwars or liquor makers and the lower caste Bhangi had taken up the manufacture of brass and copper wares. This was due to primarily two reasons – the trade had become lucrative and secondly, the intensity of population pressure and deteriorating standards of life had forced people to break their caste taboos.⁶³ Of the total number of 7, 273 Kaseras and the Thatheras in the 1891 Census most of them belonged to the Eastern Divisions of Benaras and Gorakhpur. In the big cities like that of Benaras and Moradabad specialization of labor had taken place and the work was carried on in large factory like settlements where 20 or more men were employed by a capitalist trader.

⁶² These were the Hindu occupational castes. For details regarding the Muslim occupational castes, see, Ghaus Ansari, *Muslim Caste in Uttar Pradesh*, Lucknow, 1960.

⁶³ Dampier explained that there was confusion between who amongst the Kaseras and the Thatheras was the capitalist dealer and the skilled artisan. He favored the classification of the Kaseras as the capitalist dealer and the Thatheras as the skilled artisan and liked to differ from the version of William Crooke and that of Mr. Ibbetson who believed otherwise. In reality, however the distinction between the Kaseras and the Thatheras was almost non-existent.

The chief centers of the trade in the Province were Benaras, Moradabad, Lucknow, Mirzapur, Agra and Farukhabad. While Benaras and Mirzapur were the centres of ornamental brass and copper work predominated by the Hindus, Lucknow, Moradabad and Farukhabad the trade was dominated by the Muslims. Agra mainly catered to the needs of the Europeans. In Lucknow the trade was declining. The reasons were the annexation of Oudh and the Mutiny due to which it lost its traditional market amongst those of the Muslim elite class and the nobility. Also the Lucknow craftsmen unlike those of Benaras and Moradabad had failed to adapt themselves to the European tastes or requirements of paper knives and match box. Nevertheless, their products signified high workmanship. Dampier concludes by saying that the trade had great prospects. And the reasons he gave were: a rise in the standard of living of the general public, use of improved machinery for the extraction and the preparation of copper ores and the brass sheets, lower cost of importation of the raw material due to competition in the steam navigation of the East. It was a misconception, Dampier states at the end of his monograph that the trade was on a decline. This notion of decline was the result of the small producers losing out to the intervention of machinery and in the bigger towns it was due to the traditional occupational castes losing the ground.⁶⁴

⁶⁴ Abdui Halim Sharar in his book *Lucknow: The Last Phase of the Oriental Culture* does not mention any thing separately on the Brass work.

The silk weaving industry of Azamgarh maintained its vitality even in the 1900s owing to its ability to adapt to local conditions and prejudices. There were towns and villages in the Azamgarh district where the majority of the population practiced silk and cotton weaving. While Azamgarh was famous for its satinette, Farukhabad on the other hand turned out very coarse fabrics. In the 1881 census of the North Western Provinces and Oudh there was no mention of the silk weavers in the Province whereas by the 1891 census the number was mentioned at 904. In Lucknow, the silk weavers were accounted to 215 who mainly prepared braid and ribbon makers and sellers.⁶⁵

In Azamgarh, there was a cotton weaving industry also. The pattern woven was mainly that of the stripes and sometimes a combination of the stripes and checks. In fact, the Azamgarh district was one in which the weaving industry was carried on the largest scale. The weavers throughout the district were all Julahas. The Printing of cotton cloth was carried on in Farukhabad and Lucknow amongst other places in the Province. In Farukhabad the hand spinning industry had declined. The weavers in the districts were all Julahas. But on the larger scale, the weavers were all Julahas and the Koris.⁶⁶

The Julahas were amongst the 'clean occupational castes' of the Muslims. These members were believed to be descendents of the 'clean occupational castes' of the Hindus and

⁶⁵ A. Yusuf Ali, I.C.S., *A Monograph on Silk Fabrics, N.W.P.O.*, 1900.

⁶⁶ C. A. Silberrad, I.C.S., *A Monograph on Cotton Fabrics, N.W.P.O.*, 1898

sometimes members from these communities united for trade union purposes. The Julahas formed the highest number amongst the Muslim castes and were the 'most noticeable for their great numbers'⁶⁷ and it was believed that the Julahas had been converted to Islam in large numbers. But the historical reasons for this were obscure.⁶⁸

Lucknow had an extensive range of artisan industries which were mainly confined to the city. The artisans formed the bulk of its industrial population. The highest number was those of the Julahas and Koris engaged in the manufacture of cotton fabrics. Cotton cloth of all kinds was woven in Lucknow from the coarse cloth to finest muslin. Most of these artisans stayed in Hasanganj area of the city. The other artisan industries included cotton printing, dyeing, embroidery, gold and silver work, making of gold lace, silver work, ivory carving, wood carving, pottery making, modeling.⁶⁹

Conclusion:

There was a clash of interest between the artisans and the school authorities regarding the curriculum of the industrial school both before and after its affiliation to Roorkee. This clash of interest was visible both while the school was imparting training for railway apprenticeship as well as after

⁶⁷ In the 1869 Census, the Julahas numbered 519 practicing their traditional occupation and 309 practicing agriculture. For details, see, E.A.H. Blunt, *The Caste System of Northern India*, 1969.

⁶⁸ Ghaus Ansari, *Muslim Caste in Uttar Pradesh*, Lucknow, 1969, p.44

⁶⁹ H.R. Nevill, *Gazetteer*, 1907.

1896 when it was imparting training for the preparation of the mechanical apprentice class of Rourkee. While the interest of the state was to impart purely technical training, the artisans were interested in Drawing and general education, in particular English. When the artisans felt their interests were slighted, they simply withdrew from the school. Thus the state was forced to take into consideration the artisan's concerns.

CHAPTER 3: TOWARDS A TECHNICAL INSTITUTE: 1901-1918.

INTRODUCTION:

From the 1900s, after the implementation of Sir E.C.Buck's *Report on Practical and Technical Education, 1901*, went through a period of crisis. Stabilization began only after 1907 when the School became a purely technical institute. From 1907 to 1920, information about the School becomes scanty in the Proceedings of the Education Department. Interestingly, the Inspection Notes of the Indian Industrial Commission 1916-18, accounted the history of the School from 1900 and referred to it as 'The Mechanical Engineering School, Lucknow'.¹

TOWARDS AN EXPANSION?

A. Buck's Report: the first conjuncture:

Sir E.C.Buck's "Report on Practical and Technical Education" was the second major conjuncture after the Industrial School was established in 1892. It recommended a strict distinction between general education and technical and industrial instruction. The Report classified the artisan in to three types: i. the artisan of the lower class or the workmen in the foundries and the railway

¹ *Indian Industrial Commission, Inspection Notes, 1916-18, p.8*

workshops, ii. The industrial artisan who required training only in mechanical drawing and educational handwork, iii. the artisan in the higher class and the in workshops and foundries where training in drawing was the chief requirement. Following the model of the Naples Industrial School, Italy, the system of total separation of the general and the technical education was applied in the Lucknow Industrial School and a course for teaching market industries with prospects of improvement and demand was introduced under the native artisan teachers. But the government was not willing to take the responsibility of the marketability of these products. The admission became payable and restricted to the boys likely to pursue the trade after their industrial training. No expensive machinery to be installed in the School.² This phase which lasted till around 1903 was marked by an attempt towards increasing the commercial viability of the School. It was also attempted on a larger level following the Buck's recommendations.

Edward Charles Buck of the Bengal Civil Service was deputed by the Government of India to inquire into technical and practical education in India in

² E.C. Buck, *Report on Practical and Technical Education, 1900-1* (henceforth RPTE). For a detailed description of E.C. Buck's Report, see, S.N. Sen, *Scientific and Technical Education in India, 1781-1900*, New Delhi, 1991, pp. 432-440. Sen gives a detailed account of Buck's Report but misses the discussion as to why these policy discussions were taking place.

each province in India.³ His recommendations, based on the Government's policy in the 1900s, aimed at encouraging the potential, indigenous manufactures-artisan and steam powered industries – and also at improving the machinery which would help in its production process. Buck's report stated that in India, there were many handicrafts which could compete with the German and Chinese imports in durability and cheapness and find an export market but only if the dexterity of the Indian artisan and his production process could be improved by introducing him to better tools and hand machines.⁴ Increased mechanization would lead to a market oriented, mass production of the artisan products but for this the Government's assistance was important in the form of initial advances, expert instructors and the provision of raw material.⁵ Exhibitions, museums and emporiums could be a good means for tapping the export markets in England and the America. The products turned out would have to be of high quality and suited to the tastes of the Western consumers. For this Indian art

³ Sen, *Scientific and Technical Education*.

⁴ The technological officer of each province along with the local associations was to identify the industries which could be developed indigenously so that the import of such articles could be stopped and for this a detailed survey would be undertaken. Weaving was identified as a viable export industry. For details, see, *RPTE*.

⁵ *RPTE*.

forms would have to be molded to suit the tastes of the foreign requirements.⁶

In the 1902 Educational Conference at Shimla, the recommendations were accepted by the Government of India. General education was relegated to the night classes and was not included in the main curriculum of the industrial school. The industrial schools were to develop as educational institutions and were to encourage particular local industries or trades of the province. In the North Western Provinces, Lieutenant Colonel Clibborn of the Roorkee College headed a Committee to survey industries and implement the recommendations of the Conference.⁷

Mr. P.H. Swinchatt, the new headmaster of the industrial school, Lucknow was appointed to collect information about a few industries: weaving⁸ from mainly Azamgarh, Fyzabad, Aligarh, and calico- printing⁹

⁶ Ibid.

⁷ These officials who conducted the surveys would be able to instruct the teachers of the industrial schools about the industries surveyed. If such teachers were not available in India then the officials would be called from England who would first study the industry and then they would train the teachers in it.

Secretary to the GOI, Home, Education, to Secretary to Government, NWPO, 20th November, 1901, PED, NWPO, Vol. 13, Jan-June, 1902.

⁸ For details regarding the weaving industry, see, A. C. Chatarji, *Notes on the Industries of the United Provinces*, Allahabad, 1908, pp.10-52.

⁹ For details regarding calico printing, see, Khan Bahadur Saiyid Muhammad Hadi's, *Monograph on dyes and dyeing*, p.44. and A. C. Chatarji, *Notes*, 1908, pp.68-77.

principally from Farukhabad, brass-work¹⁰ from mainly Benaras, Lucknow, and Moradabad.¹¹

B. Implementation of the Educational Conference Proposals in the Industrial School Lucknow:

As part of the implementation of the Conference proposals in the School, the management committee of the Industrial School which had Mr. Chatterton, the Principal of the Arts School, Madras, as one of its members asked the new headmaster of the school, Mr. Swinchatt, recommended the adoption of the Casanova Boy-Artisan system which was in vogue at Naples with certain modifications to suit the local conditions. The artisans of Lucknow were offered inducements which included monetary inducement as well as a sales room in the school. Drawing was accorded a prominent position in the curriculum of the Industrial School. A night school was arranged to impart general education to the artisans for which only a nominal amount of fees was charged. The curriculum of the night school also included instruction in drawing. But there would not be any decrease in the workshop hours of the main school to assist the students to attend the

¹⁰ For details, see, A. C. Chatarji, *Notes*, pp. 116-126.

¹¹ Secretary to Government, NWPO to the Director of Public Instruction, NWPO, 7th December, 1901, Vol. 13.

night school classes.¹² Apart from this, a special department was recommended where boys who intended to join only the Roorkee mechanical apprentice class could be admitted through an admission test of the standard of the lower middle Anglo-vernacular schools. The number of boys to be admitted to the school was not to exceed twenty annually. The curriculum period could extend over 3 years. And the instruction would include elementary mathematics, drawing, manual training, and knowledge of English. The maximum number of students would be sixty. To identify the industries that could be considered for the industrial school training and to ascertain the feelings of the artisans regarding the introduction of the Neapolitan system of work in the school, Mr. Swinchatt along with the Inspector of Schools, Mr. Chakravarti and the Assistant Master of the Industrial School, M. Radha Kishen surveyed the principal artisan workshops in Lucknow.¹³

A few shops owned by the master artisans or by the large employers of the artisans in Lucknow were visited which were as follows: embroidery or the chikan work, calico-printing, manufacture of the silver ware, bidar or inlaid work including zarbaland which could also be termed as

¹² Boutflower, Director of Public Instruction to Secretary to Government, NWPO, 7th May, 1901, PED, NWPO, Vol. 13.

¹³ Director of Public Instruction, NWPO to Secretary to Government, NWPO, 7th May, 1901, PED, Vol. 13.

relief work and clay-modeling.¹⁴ A copper ware manufactory was also visited though it was not so peculiar to Lucknow. While collecting information about the industries, it became clear that the artisans were all against the practicability of the new recommendations in the industrial school. The reasons perhaps lay in the working style of the artisans which they practiced in their shops in the market.¹⁵

The artisan of Lucknow preferred working with the help of his family members. He sold his product himself so that he could get the best possible price for his product. His work varied from season to season. For instance, the calico printer involved himself in the production process in the summers and in the winters he sold his products. These were too comfortable a situation, the officials considered, to abandon his and get attracted to the offers of the industrial school. The artisans disliked leaving their home even for a few hours or, or to be enforced with the discipline of a school curriculum. Also if they were unable to go out then they felt deprived of the opportunity to sell their products for the maximum price. Artisans were offered rent free

¹⁴ G. N. Chakravarti , Inspector of Schools , 2nd Circle, NWPO to Director of Public Instruction, NWPO, 22nd March, 1901, PED, NWPO, Vol. 13. Clay-modeling was already taught in the industrial school by that time.

¹⁵ Ibid.

accommodation, advertisement of their products and guidance in the improvement of their industries.¹⁶ But even the officials agreed that the inducements being given to the artisans were not attractive. The artisans already had an accommodation.

The management committee of the Industrial School decided to introduce brass work, clay modeling, calico printing and tar kashi into the School curriculum. Small payments were to be made to each apprentice. Efficiency of the apprentice would earn him a bonus. Subsidies would also be given in proportion to the amount of the work done in the shops. It was decided that until the new scheme went passed the experimental stage the technical industries that were taught in the School would not be disturbed.¹⁷

To attract the attention of the commercial classes the location of the School was also changed to Aminabad. It was decided that a new building would be hired there and the artisan classes would be started in the building.¹⁸ In the Industrial School session of the 1901-2, along with the

¹⁶ Ibid.

¹⁷ Secretary to Government, NWPO to Director of Public Instruction, NWPO. 22nd June, 1901, PED, NWPO, Vol.13.

¹⁸ T. C. Lewis, Director of Public Instruction, NWPO to Secretary to Government, NWPO, 14th January, 1902, Vol. 13.

Neapolitan system, carpentry, iron work, clay modeling, dyeing, glass blowing, drawing, elementary mechanics, workshop practice, calico-printing, tar-kashi, copper and brass work were introduced in to the School curriculum¹⁹

Each boy was allowed to select only one course. Prior to his admission to this particular trade he was instructed in drawing that was suited for the particular course. General education was not included in the curriculum at all except in the night school or in the Special Roorkee Preparatory Classes. In the 5th and the 6th year classes the instruction in elementary mechanics and workshop practice only for the trades for which it were absolutely necessary. In this Special Roorkee Preparatory class the subjects offered would ordinary mathematics with trigonometry, English, drawing, mechanics, workshop practice and other manual training in wood and iron.²⁰

The following native artisans were invited: clay modeler, metal worker, calico printer who came only on being paid a monthly bonus. In the night school

¹⁹ Director of Public Instruction, NWPO to Secretary to Government, NWPO, 15th January, 1902, Vol. 13.

²⁰ Ibid.

which was only for the registered students of the school or for those who were working in any workshop of the city.²¹

However, by 1903, the School was in the doldrums.²² ex-officio visitor to the School, At that time the school had four sections. The first section was that of the main industrial school in which certain trades were taught and no general education was imparted. At the time of Atkinson's report the attendance was as follows: 10 boys in the industrial school, 7 in the Roorkee class, and 9 in the bazaar. Only in four cases were the fathers of the boys craftsmen.. When the school was declared to be a pure and simple technical school, the general education was abolished and the workshop system, the special Roorkee preparation class was introduced, the attendance began to fall drastically. Out of the 3 pass outs, 2 got appointment as drawing masters and the 3rd one was left with nothing.²³

Secondly, the school was spending more than what it was earning through the sale and the products made by the students of the manufacturing department. Regarding the Roorkee class of the School, the

²¹ Ibid.

²² Atkinson, Principal, Thomason College, Roorkee to Secretary to Government, United Provinces, 13th February, 1903, Vol. 16.

²³ Ibid.

students fell short of the standard required to enter the mechanical apprentice class which aimed at turning out a class of foremen mechanics. Atkinson therefore recommended the end of the Roorkee special class, re-introduction of general education and an admission test to qualify for the Roorkee Mechanical Apprentice class.²⁴

As far as the Casanova system was concerned, eventually the School was able to attract only three artisans: a calico printer, a copper smith, a tarkashi worker. These men had been induced to come with a payment of Rs. 20 a month but they hardly made any effort to improve the quality of the products. The problem was that any improvement in the bazaar method increased the cost of the product so much that it became unsaleable.²⁵

C. Atkinson's suggestions:

Atkinson believed that the reason for the failure of this system was that every industry had its own quarter in the market. And in every industry the artisan or the workman was usually the servant of the shopkeeper. He worked in gangs on a daily wage or piece work system; the

²⁴ Ibid.

²⁵ Ibid.

shopkeeper supplied all the materials, and also housed and fed the workman. The workman was always kept in debt by the master artisan to control him.²⁶

For the workshop system to be successful; the articles had to be sold in profit. And for this, Atkinson thought that mass production was the only way out to make the system workable in the bazaar.. In the bazaar he saw workshops where 4 to 10 apprentice boy who watched the master artisans and learnt the work gradually and received wages as their skill increased. When the headmaster tried to show the utensil maker an improved technique he replied that he already knew it but it would increase the cost of production. The artisans did not need any suggestions to improve their technique. What they needed was to tell them how to produce more at cheaper rates.

Thus, Atkinson concluded by saying that the School could do without it. It could be successfully run only in the bazaar. The number of students in this section was gradually nearing zero because the industrial education it offered was not something which the artisans wanted. In addition the School was situated at a distance from the area where artisans lived and worked as apprentices in the bazaar and save their training and subsistence they did not

²⁶ Ibid.

have to leave their families. Only those artisans who wanted to make their sons into clerks and draughts men sent their sons to the school.²⁷

In Lucknow the market was in direct competition to the School. This was not the case in Roorkee because the industries, for instance, those were taught in the mechanical apprentice class Roorkee were not taught in the bazaar. In addition Roorkee was able to retain students because it gave them scholarships and stipends.²⁸

Atkinson's report suggested a few things: some general education had to be offered for only those trades which could be supervised by the headmaster were taught in the school. Only those boys whose parents could give an assurance that they would continue with the trade would be admitted.

The management committee of the school abolished the workshop, bazaar, night school and the Roorkee preparatory class. A general curriculum was prepared for all the students. The Deputy Inspector of schools and the

²⁷ *ibid.*

²⁸ *ibid*

heads of all the orphanages, chaplains, missionaries, municipal schools especially the Hussainganj municipal schools were urged to send their students to the industrial school and to introduce manual training to their own schools.²⁹

The School was divided in to three sections preliminary, ordinary and the special drawing class. All the students in the ordinary class when asked for their opinion suggested that they wanted to go on to the Roorkee class but it was not possible for them to do so because of the curriculum. The English course did not match up to the standard of the Roorkee entrance examination and the Algebra was not taught at all. That was why the students of ordinary schools students fared better than those of the Industrial school students. Boys from the Industrial school were proficient in practical work but not in general education needed to comprehend the courses in electricity, heat, steam and engines. The school could turn out a class of ordinary workmen but these were not as good as those in the bazaar. So Atkinson suggested that the headmaster reduce the amount of the practical training and increase the component of general

²⁹ Proceedings of a meeting of the Committee of Management of the Industrial School, Lucknow, held on the 16th April, 1903, Vol. 16.

education. The headmaster asked Atkinson to nominate students for Roorkee instead of making them qualify for the entrance examination.

Instead they wanted mechanics who would be qualified enough for mechanical employment. The Locomotive Superintendent of the Oudh and Rohilkhand Railway, P.A. Hyde stated that they required the school to turn out a class of men who could cater to the lower grades of the mechanical section of the railways.³⁰

The mechanical section of the railways needed fitters, charge men, mistris, carpenters, turners, smith and foundry work. Also, the school could take up all the outside work from the railways, private individuals and the private firms. And if the School was ready to modify the curriculum according to the requirements of the railway companies then the students could be employed in the railway workshops.³¹

By 1906, it was becoming clear that the school was trying to free itself from the domination of

³⁰ Hyde, Locomotive Superintendent, Oudh and Rohilkhand Railway to Inspector of Schools, 3rd circle, Lucknow, 14th July, 1906, Vol. 23.

³¹ Ibid.

Roorkee. The Railway officials on the management committee were dominating its decisions.³²

A. The Nainital Industrial Conference of 31st August 1907

The Conference recommendations proved to be another important conjuncture in the history of technical and industrial education in the Province. The aim of the Conference remained the same - to shift the focus from agriculture towards industry and reduce the dependence on agriculture and to encourage people to take up industrial pursuits to maintain a constant supply of skilled labor for the industries. Overall, the emphasis on connecting technical and industrial education with the trade and the industries was maintained.³³

This phase marked a transformation in the character of the School. Hereafter, the School was converted in to a purely technical school. Funds were allotted to the Lucknow Industrial School for new workshops and equipments and thereafter the School was in great demand. 50 sons of the artisans were on the rolls, paying the fees and there was a great demand for boarding house

³² *Report of Public Instruction, (RPI), 1907.*

³³ *Papers Relating to Nainital Industrial Conference, 1907.*

facilities. The School was renamed as the Government Technical School by the 1912s. The curriculum of the School was remodeled to suit the recommendations of the Conference so that they could be employed in the Lucknow and Gorakhpur Railway Workshops, the mechanics were being employed in the Kanpur firms through the Upper India Chamber of Commerce. The Mechanical Apprentice Class was transferred from the Roorkee Engineering College to the Lucknow Industrial School by 1915. By 1918, the School had become the Mechanical Engineering College. The history of the School, according to, *Inspection Notes of the Indian Industrial Commission, 1916-18*, started from the 1899 after Swinchatt took over as the Principal of the Industrial School. It clearly mentioned that the underlying idea of the education given in the School seems to be to turn out a class of 'artificers' or foremen mechanics.³⁴

At the provincial level, two more Industrial Schools were set up. In Gorakhpur, it was demanded by the Gorakhpur Railway Workshops where as in Kanpur it was demanded by the Chamber of Commerce.³⁵ The earlier preservationist zeal was completely dropped from the agenda of the Lucknow Industrial School in this phase which

³⁴ *Indian Industrial Commission, Inspection Notes, 1916-18, p.8*

³⁵ *Ibid.*

was visible in the setting up of the separate Art School and a School of Design in Lucknow to promote industrial designing. The authorities were of the view that industrial designing was important to upgrade the designs of the 'ignorant' Indian artisans which would make them competent as against the foreign goods. They thought that the Indian artisan were reluctant to introduce changes in their designing.³⁶ The European experts would teach these improved designs to the artisans.³⁷ The Art and Craft School which was set up in Lucknow was 'very popular and encouraged invention, enhanced the artistic ability, and the aptitude of the boys attending design classes.' In all the Industrial Schools, European experts were to be imported to monitor the work going on in these Schools.³⁸

Further, a Director of Industrial Enquiries and Education was appointed, nascent industries were promoted, business procedures were simplified and expert advice and loans were granted to the cooperative societies of the artisans, cooperative principles amongst the trading classes

³⁶ George Birdwood and E. B. Havell also believed in similar ideas. For details, see, George Birdwood, *Industrial Arts of India*, 1880 and E.B. Havell, *Essays On Indian Art, Industry And Education*, Madras, n.d.

³⁷ The Conference increased the salary of the European experts to be imported to India.

³⁸ *Report of Public Instruction, 1912.*

were strengthened, the inventions were encouraged, to disseminate information about the industries of the Province-vernaculars, industrial directories, trade-journals etc were roped in. One of the main reasons given for the promotion of technical education in the Province was the maintenance of political peace and to upgrade the quality of the Indian products so that they were able to compete with the international products.³⁹ The Indian goods identified for competition with the foreign articles were the gold thread industry to compete with the Lyons industry of France, which had driven out the Indian gold thread from the market; the yarn for Kashi silk which was obtained from Italy; locally made perfumes to face competition from the German perfumes. An experienced button-maker from England was to be brought to the Lucknow Industrial School.⁴⁰

Large scale Exhibitions was adopted as a popular policy to promote information about industries. In the Art and the Craft School also a sale room for the tourists was set up to exhibit the products.⁴¹ It was believed that the exhibitions would allow the craftsmen to market their products at a good price. In this context, a micro level study of the

³⁹ Home, Education - A, No. 55-56, January 1909; *Papers Relating To Nainital Industrial Conference, 1907.*

⁴⁰ Ibid.

⁴¹ *Report of Public Instruction, 1912.*

United Provinces Exhibition which opened at Allahabad in December 1910 seems useful.

The United Provinces Government declared that its aim was to encourage the arts and industries of the United Provinces through this exhibition. But in actuality the idea was to display the new appliances and tools which the state was promoting to upgrade the artisan's skills. This exhibition had a section called the Educational Court to which both the Roorkee Civil Engineering College as well as the Lucknow Industrial School sent their exhibits. However, one is unable to make out the exhibits that were sent from the Industrial School to the Exhibition. The committee which was to organize the exhibition was a representative committee which comprised of members from all sections of the population. The Government was trying to tap the District and Tehsil authorities, District and Tehsil municipal board members, public associations in general and the proprietors of the large industries, the landed proprietors and the educated community in particular. The orientation of the exhibition was to promote mechanization and mass production. This is best explained by the fact that the judges of the Weaving Competition were the proprietors of the large mills for example, the Elgin and Muir mills. In the competition, the yarn supplied was uniform in colour and was manufactured by the Elgin Mills, Kanpur and the Messer's Allan Brothers & Co. and the weave was plain. Apart from this, the emphasis in the Weaving Competition was the demonstration of

the skills of the village weaver, inspection of the looms and a study of the weaver's methods. Prizes were to be awarded for the best improved Fly Shuttle, the best looms and to the weavers for the best work done. There was also a distinction made between the ordinary indigenous village loom and the improved handlooms whether of Indian or foreign designs. The obvious reason behind this was to educate the public about the improved technologies that the colonial state thought it was introducing to upgrade the artisan's skills. The competition was declared a huge success. But the officials felt that the weavers of the United Provinces were technically inferior to the weavers of the Bombay or the Madras Presidency. The Government agenda of mass production becomes quite clear by the recommendations of the Director of the Industries who suggested the setting up of small private factories with not more than hundred looms each as had been done in England from where the English cotton weaving industry had taken off.⁴²

Conclusion:

There are two turning points in this chapter the first is the phase just after the Report of the Practical and Technical Education in 1901 and the second is the post 1907 industrial conference phase. In the post 1901 phase, the School briefly tried to experiment with the idea of drawing the

⁴² *The Pioneer*, 6th September, 1907; *A Report on United Provinces Exhibition, Weaving Competition*, 1911.

artisans from the market to the School, improve their skills to enable them to cater to mass production. However, because the artisans were not willing to come to the School leaving the comfortable environs of their workshops, this experiment failed completely and the School was in the doldrums by 1903. Then there was a brief phase where the interests of the mechanical apprentice class of Roorkee dominated, which soon faced opposition from the railway authorities who want to make the School solely a training site for railway apprenticeship. Finally the School became a purely technical school and went on to become the Mechanical Engineering College by 1918. What needs to be noted here is that the history of the School which is accounted in the Report of the Indian Industrial Commission from 1899 completely omits the prior phase of the School. It does not recognize the contribution of Tara Prossanno and only registers Swinchatt's name as the Principal of the Lucknow Industrial School. This indicates that right from the beginning the dominant objective of the industrial school was to train skilled workmen who could be appointed in the Public Works Department and Railways. The preservationist zeal which functioned behind an arts school in other provinces was always set aside very easily in Lucknow. Although a visible contradiction was that the Lucknow Industrial School was used by the artisan to learn Drawing and to seek employment as drawing masters and draughtsman. Here again there seems to be a clear indication that the State could not ignore the interests of the artisan.

CONCLUSION

The present work seeks to trace the developments of technical education for the artisan and focuses on a particular institution in Lucknow, the Lucknow Industrial School founded in 1892. The discussion about the technical education was initiated with MacDonnell's *Note on Technical Education* in 1886. It held that it was important to encourage technical education due to glut in employment sector related to literary education. Thus, there was a need to emphasize practical education in the country. On deeper analysis it becomes evident that one of the main reasons to initiate technical education was to encourage a variety of industrial occupations to reduce the pressure on agriculture. In the North Western Provinces and Oudh, recurrent famines led to a demand for a particular class of skilled labor, to be employed on the various subordinate posts in the Public Works Department projects in the state important to curb the effect of famines. This local imperative was very strongly functioning when the Lucknow Industrial School was set up in 1892. The School became one of the most important sites for training this category of skilled labor. The larger technical education debate however had another angle to it - the preservationist angle which emphasized the training of the artisan to improve his productions through mechanization and cater to the wider market. The proponents of this debate were mainly influenced by the Art and Crafts Movement in

England in the 1870s. Apart from Metcalfe, this theme has been explored deeply by Dhruv Raina and S. Irfan Habib from which I have drawn upon substantially. They suggest that the deteriorating condition of the Indian artisan had to be taken care of to prevent any kind of social revolution which had been brought about by the discontented working class which had suffered massively due to industrialization in England. However, this aspect of the technical education, though present, was never the dominant objective in the Industrial School of Lucknow. When such an experiment was attempted briefly in the School following E.C. Buck's *Report on Practical and Technical Education*, 1901, it failed because the artisan's refused to come to the School. The clash of interests between the state policy makers and the artisans regarding the various issues forms the point of analysis of the next two chapters.

Chapter 2 is about the first phase of the school when the School was set up in 1892 for the sons of the railway artisans, for the poor Europeans and the Eurasians and most importantly, the industrial classes of the city who were mostly artisans. The trainees were to be taught the elementary general education, Drawing and manual training and were to be employed as railway apprentices. The School was modeled on the Railway Technical School, Lahore. From the beginning the tendency of the school to become a feeder institution to the Roorkee Civil Engineering College was dominant although a few officials in the government circles like White and Pitcher, who are also concerned about

improving the skills of the traditional artisans of the city. But this objective always remained subdued in the entire course of functioning of the School.

What is most interesting in this whole debate is the problematic of the policy implementation of teaching the artisans English and general education free of cost. While the emphasis of the authorities was to solely impart manual training to the artisans, the artisans had other plans. Most of them wanted to learn drawing to become draftsmen and also learn English even though it was an extremely elementary one barely enough to make the students comprehend the working drawings and the written orders in the railway workshops and to understand the instructions of the supervisors who were mostly Englishmen. This clash of interests between the state and the artisans is visible throughout this period. After the Industrial School was affiliated to the Roorkee engineering college in 1896, the entire structure of the industrial school curriculum was oriented towards the Mechanical Apprentice Class in the Roorkee College of Engineering. General education was reduced to such an extent that even the authorities from Roorkee Engineering College asked the school authorities to raise the standard of general education upto the level that the artisans could comprehend the syllabus of the mechanical apprentice class. Besides the complaints of the authorities of the Roorkee College, the artisans were also withdrawing because of the pressure long hours of manual training

which forced them to carry on general education in their homes. This trend is very much visible in 1897. Lastly, the replacement of the headmaster Tara Prossano Banerjee by Mr. P.H. Swinchatt can also be located within this whole debate about changing the character of the school from a simple industrial school to a more specifically a Technical School.

In chapter 3, there are two turning points, the Report of the Practical and Technical Education in 1901 and the second is the post 1907 Industrial Conference phase. In the post 1901 phase, the School briefly tried to experiment with the idea of drawing the artisans from the market to the School, improve their skills to enable them to cater to mass production. However, because the artisans were not willing to come to the School leaving the comfortable environs of their workshops, this experiment failed completely and the School was in the doldrums by 1903. Then there was a brief phase where the interests of the mechanical apprentice class of Roorkee dominated, which soon faced opposition from the railway authorities who want to make the School solely a training site for railway apprenticeship. Finally the School became a purely technical school and went on to become the Mechanical Engineering College by 1918. It needs to be noted here that the history of the School accounted in the Inspection Notes of the Indian Industrial Commission from 1899 completely omits the prior phase of the School. It does not recognize the contribution of Tara Prossanno and only registers

Swinchatt's name as the Principal of the Lucknow Industrial School – a visible indication of the change in the character of the School.

Due to paucity of time, the sources which I dealt with were primarily archival. However, the theme can be further explored, especially, the whole debate about the nationalist perspective about the technical education. An important theme which can be explored is the artisan's voice by analyzing the biographies of the artisan and tracing some oral sources, through interviews and tracing tracts and pamphlets written by the artisans themselves or by looking in to the associations, cooperatives, societies, if any, which had been set up by the artisans.

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APPENDIX- 1

The Wingfield Manzil was probably earlier known as the Wingfield Park. H.G. Keene describes it as the area which comes after 'crossing the canal and turning to the right'.¹ It was a beautiful garden maintained by Dr. Bonavia. Its older name was Banarasi Bagh or Banaras Garden and derived its latter name from a former Chief Commissioner, Sir Charles Wingfield. However, the funds which had been allotted for its maintenance were not enough and the Park had reduced to the small area by 1875. M.A. Beg provided the same description about the place.² Both mentioned that in the centre of the Garden was a marble pavilion, or the Baradari, built in the Moghul style of architecture. By 1875, the Baradari was being used as a place for organizing flower shows and festive meetings and the floor was used for dancing.³ Keene's map shows the Wingfield Park but the areas around it are unmarked. Nesfield, the Director of Public Instruction, NWPO, while setting up the Industrial School mentioned that the Wingfield Manzil was situated at the north side of the Abbot Road and there was some open land between the Abbot and the Havelock Roads where the School building was

¹ H. G. Keene, *A Handbook for the Visitors to Lucknow*, 1875.

² M. A. Beg, *The Guide to Lucknow*, Lucknow, 1911.

³ Keene, *A Handbook*.

proposed. To the East and the North East of the Wingfield Manzil were the habitations of the railway artisans. Some of them also stayed at Hussainganj.⁴

In Keene's map, the Abbot Road is marked but not the Havelock Road. And the Wingfield Manzil is situated at the north side of the Abbot road. So it seems that the Wingfield Manzil was same as the Wingfield Park.



⁴ Nesfield , Director of Public Instruction, NWPO to Secretary to Government, NWPO, 11th August, 1892, PED, NWPO, Vol. 1, JAN-JULY, 1893.