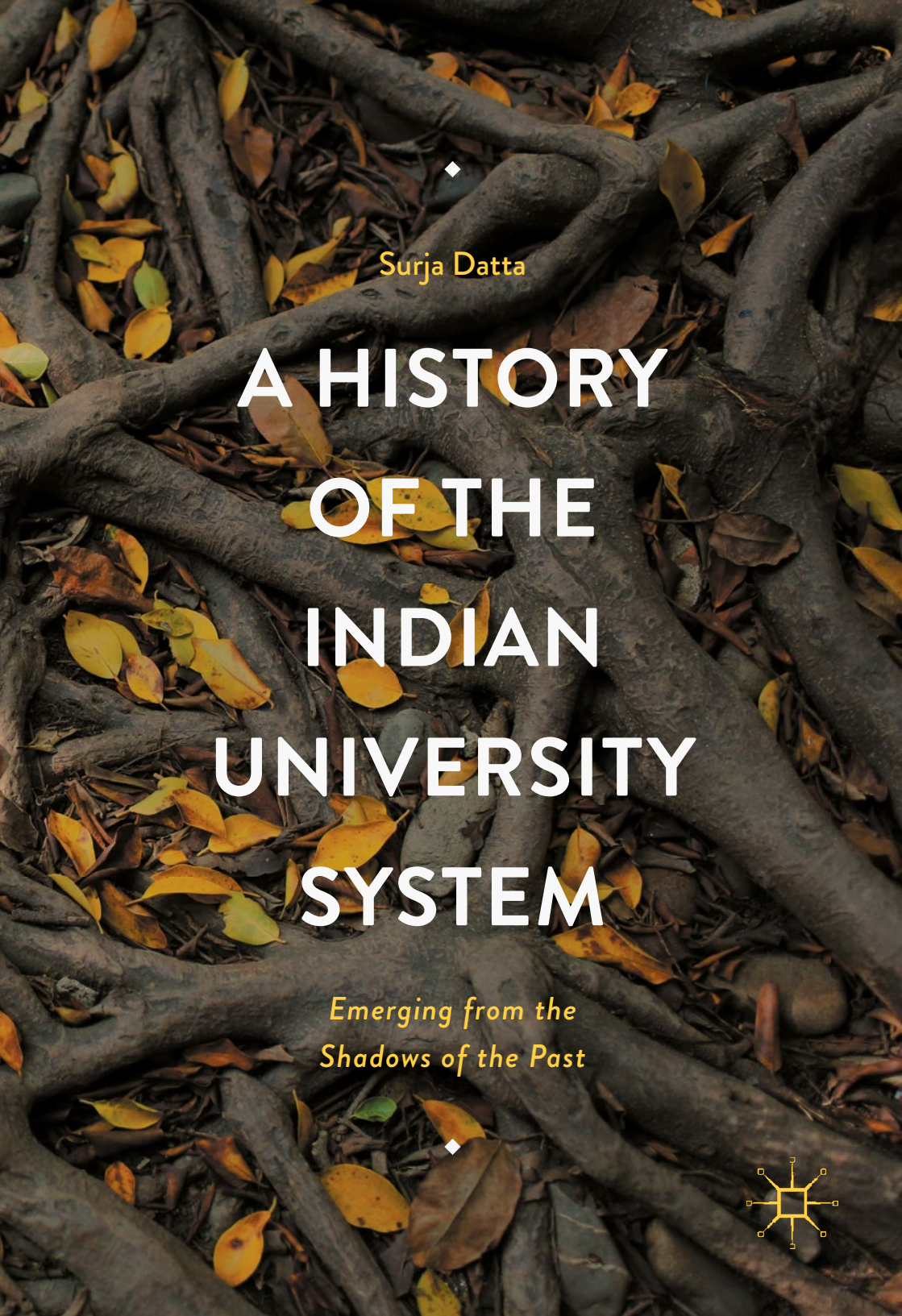
Surja Datta
A HISTORY OF THE INDIAN UNIVERSITY SYSTEM
Emerging from the Shadows of the Past

A History of the Indian University System

Surja Datta

A History of the Indian University System

Emerging from the Shadows of the Past

palgrave
macmillan

Surja Datta
Oxford Brookes University
Oxford, UK

ISBN 978-1-137-53570-2 ISBN 978-1-137-53571-9 (eBook)
DOI 10.1057/978-1-137-53571-9

Library of Congress Control Number: 2017931830

Printed on acid-free paper

This Palgrave Macmillan imprint is published by Springer Nature
The registered company is Macmillan Publishers Ltd.
The registered company address is: The Campus, 4 Crinan Street, London, N1 9XW, United Kingdom

Acknowledgements

I would like to extend my most heartfelt thanks to the staff of the Archives and Publications Cell Indian Institute of Science (IISc) in Bengaluru, India, and the staff of the P.C. Mahalanobis Museum and Archives, Indian Statistical Institute in Kolkata, India, for helping me conduct my research. I made extensive use of materials available at the Bodleian Library in Oxford, UK, and the British Library in London, UK, and I am indebted to these marvellous repositories of knowledge.

I am grateful to my employer, Oxford Brookes University, for providing me with generous research hours without which this book would not have come to fruition. I thank my wife, Nabanita, for her unstinting support and my father, Sudhir Datta, for his constant encouragement.

Surja Datta

Contents

CHAPTER 1

Introduction

This book is not an attempt to provide a comprehensive historical narrative of the Indian university system. The aim here is to identify its specific institutional characteristics and provide an account of how they came into being. Surprising as it may sound, there are very few historical narratives of the Indian university system and even fewer that span both the pre- and post-independence eras.[1] So there is undoubtedly a need for a full account of the historical development of the Indian university system, but this book does not fill that particular gap in the wall of knowledge. The primary purpose here is to explain the structure of the system and to identify and explicate the forces that shaped it over time. Higher learning in India has a long history. It is characterised by long periods of stasis and short periods of vigorous change. Several propositions have been forwarded in this book to account for these alternate periods of stasis and change but they should be considered as tentative truths, more like an opening gambit which hopefully will be challenged or extended by future scholars directing their attention to this neglected area of research.

The book is preoccupied with one particular concern, which is to explain the main changes that the Indian university system underwent since its inception. How can one account for institutional changes? To start such an enquiry, it will be useful to define what we mean by the term *institutions*? Historians such as Mokyr[2] and North[3] have defined institutions as *the rules of the game*, or accepted behaviour codes and norms that regulate exchanges that take place between actors in political, social and

S. Datta, *A History of the Indian University System*,
DOI 10.1057/978-1-137-53571-9_1

economic arenas. Institutions can be formal rules that are brought into being through directives of governments and informal ones that are not codified but are embedded in common behavioural norms between participants in various forms of exchanges. Institutions emerge out of complex interactions between self-interest and belief systems of participating actors, and once in place, they enable and constrain future behaviour in different ways. Mokyr[4] and McCloskey[5] have highlighted the central role of ideology in informing the belief system of agents which in turn impact the direction of the evolution of institutions. Importance should also be accorded to *agency* as ultimately it is individuals who either choose to conform or deviate from established institutions resulting in either their persistence or modification. Individuals who are important in this respect are often the *elites*, people within different spheres of activity who are in positions of power and are capable of effecting changes in institutions that govern a particular sphere. As Marx and Engels argued, 'the ruling ideas of each age have been the ideas of its ruling class'.[6]

Thus to provide a historical account of changes that the university system in India underwent, this study will firmly eschew monocausal explanations. The study concurs with Bayly when he suggests that 'In the broadest terms…historical development seems to have been determined by a complex parallelogram of forces constituted by economic changes, ideological constructions, and mechanisms of state'.[7] The institutional perspective adopted here allows unpacking these forces further and directs us to the issues that particularly need attention. It is important to remember that in one particular period one of these forces may be the dominant driver for change while in others they may have come together and played their part in transformation of the scene.

Universities are a strange beast. They are organisations like no other. Rarely, they go out of business, but at the same time, they are often regarded as inert bodies that are resistant to change. Over the course of history, they have been derided for causing political unrest and hailed for generating economic prosperity. There are universities that teach only one specialised subject whilst there are others that cover all the known subject disciplines. There are universities that only examine its students without assuming responsibilities for teaching or research whilst others consider them as their core functions. The existence of this sheer diversity of university models raises the fundamental question—what is a university?

There has been a great deal of philosophising and theorising on the nature of the university, but these are not the principal concerns of this

book. This book is not about establishing a universal conception of the university and evaluating the Indian experience through that conceptual prism. It is accepted at the outset that there is no single meaning associated with the term 'university' and that it is largely dependent on the context in which it is institutionalised. Having said that, it is however important to note that universities have been around for a very long time, and although there is a huge diversity of university models across time and space, certain forms of the institution have proved more durable than others. One can use the main principle of evolutionary biology to make a point here. Natural selection involves differential survival and reproduction of individuals. The species that is able to survive and reproduce more over time becomes more numerous. The process was somewhat inappropriately termed as 'survival of the fittest' by the behaviourist Herbert Spencer. The 'fitness' has less to do with the inherent attributes of the species and more to do with how appropriate they are in relation to the environment in which it inhabits. The durable university models have survived the selection pressures from the external environment and have reproduced themselves. With the external environment becoming more homogenised due to globalisation, one can witness that certain university models are becoming more prevalent over time. It can be instructive to identify these dominant forms and also to understand the reasons behind their survival and reproductive success.

What follows is a brief overview of the different university species that are discernible across the landscape. The classification is useful as it will help relate the particular case of India, discussed in later chapters, to the more general patterns that are observable across different nation states.

The Teaching University

The oldest of the genre is undoubtedly the 'Teaching University'. Centres for higher learning have existed for over 2000 years. The Platonic Academy in ancient Greece founded by Plato in 387 BC; the Peripatetic School founded by his successor, Aristotle, in 335 BC; and the Museion in the city of Alexandria which was destroyed in the fourth century AD were all centres for higher learning where teacher and students congregated together. India too had its own ancient higher learning centres in places like Nalanda that taught Vedic studies in the sixth and seventh century. However, it would be a stretch of the imagination to label these ancient higher learning institutions as 'universities' as they lacked some of the key

institutional characters that we find in modern university systems across the globe.

Historians usually trace the origin of the Teaching University to the universities in Bologna, Paris, Oxford and Cambridge that were founded between the twelfth and thirteenth century. These institutions were different from centres of higher learning that existed earlier in the following ways—they exercised a high degree of legal autonomy and controlled their own finances, elected their own officers, enjoyed a degree of academic freedom in deciding the subjects for instruction and conferred degrees that were recognised by the state and other universities.[8]

For a long time, the Teaching University was considered to be the natural and desired model of the university. The most celebrated defence of the Teaching University came from John Henry Newman in the 1850s through his often cited thesis 'The Idea of a University'. Newman wanted to perpetuate the Oxbridge model of the Teaching University. Academics often refer to Newman, particularly when they want to defend academic freedom and the right to pursue knowledge for its own sake. Whilst the non-utilitarian purpose of university education featured prominently in Newman's thesis, what is often overlooked is that in his model of the university, research or production of original knowledge had no place. In many ways Newman's treatise was a reaction to the wider movement taking place in the British university system towards a more utilitarian model which included undertaking of research by university staff. Newman held that imparting of liberal education is the central function of the university and the main purpose of that is to produce the 'civilised gentlemen'.

The idea that university is essentially for liberal education still holds strong in many universities across many nations, but it has become much rarer to locate the unalloyed Teaching University. The main exemplars of Teaching University in the eighteenth and early nineteenth century were the University of Oxford and the University of Cambridge. Both these institutions had to transition to a more utilitarian mode by, first, incorporating natural science and engineering in their curricula and, second, by embracing research. Both of these changes were brought about by the pressures exerted upon these universities from the external environment. Competition from Scottish universities and the University College London, who incorporated science and engineering into their curricula much earlier than the Oxbridge universities, put enormous pressure on the old universities to change their ways. The relatively newer universities

were quicker to update their curricula to respond to the needs of the Industrial Revolution which was at full swing during this period.

Oxford and Cambridge resisted initially but ultimately had to follow suit. Research activities were also at first reluctantly taken up by the older universities but enthusiasm grew over the years and gathered pace during the two World Wars. In the year 2010, the two oldest universities topped the table in terms of securing funding from various research councils.[9] Although the cherished pastoral relationship between tutors and students is enshrined in some practices that are still being followed in the Oxbridge universities, in the main, they have moved from being a 'Teaching University' to a model that is closer to the 'Humboldtian University' which is explicated later in the chapter.

The Examining University

A university that only examines and not teach its students may sound like an oddity but in fact such universities are not that rare. The Examining University model has a special significance in relation to India as the university system in the country was established on that basis. The founding model has been discussed in depth in Chap. 3, but a short overview may be apropos here. The Examining University originated with the establishment of the University of London (UoL) in 1836. The University was designed as an examination body to examine students of its affiliated colleges—University College London (UCL) and King's College London.

University of London was an outcome of a compromise. As UCL was considered a 'godless' institution because of its secular nature, the orthodoxy of the time prevented it from obtaining the University Charter from the Crown directly, and hence UoL was set up as a purely examining body to assess the students of UCL and King's.[10] This compromise became the preferred model when the British set up the university system in India. The main strength of the Examining University is that it is cheap to run and administer and no doubt this was what attracted the colonial administration in India and made them to adopt it enthusiastically. Over time, universities in India have gradually moved away from the Examining University form, incorporating teaching and, to a lesser extent, research within its ambit, but there is still a large imprint of the founding model in university affairs. Undergraduate studies are still undertaken largely in affiliated colleges and research activities are very limited in nature. The system remains, in the main, examination oriented.

It is clear that the Examining University serves only a limited purpose and with the passing of the colonial era its raison d'etre diminished rapidly. The original Examining University, UoL, incorporated teaching within its scope in 1958, and one is hard pressed to find examples of universities as pure examining bodies in the twenty-first century. But a Teaching University can often be an Examining University in spirit and this idea is further elaborated in later chapters.

The Humboldtian University

The Humboldtian University is more of an idea of a university rather than a particular concrete expression of the institution. The essential idea of the Humboldtian University is the unity of teaching and research. Many universities strive for the ideal, few are able to achieve it.

Wilhelm von Humboldt espoused the ideal while he was the Interior Minister in the Prussian Administration. In the memorandum Humboldt submitted to the King in 1809, petitioning for the foundation of a new university, he referred to *Wissenschaft*, the scholarly and scientific approach to learning. Humboldt saw *Wissenschaft* not an end by itself, rather a means to an end, which is the creation of the cultured individual. It is 'the active process shared by professor and student and from which both derived profit'.[11]

The criterion of *Bildung*, meaning culture, is not the possession of knowledge, but rather the effect that the acquiring of such knowledge has on the individual. Even though the individual may eventually forget all the knowledge he acquired during his studies at the university, *Bildung* culture will remain, as well as the ability to proceed to the acquisition of more and more knowledge. According to Humboldt the attainment of *Wissenschaft*, the attitude of mind, is the aim of all activity in the university, and this can only be achieved through the unity of research and teaching.

For someone like Jasper, expanding on the idea of the Humboldtian University, research in fact came before teaching:

> The university is an institution uniting people professionally dedicated to the quest and transmission of truth in scientific terms. Because truth is accessible to systematic search, research is the foremost concern of the university…The university's second concern is teaching, because truth must also be transmitted.[12]

Many universities across the globe, particularly in the developed world, now regard teaching and research as part of their main activities. However, in reality, the unity of teaching and research is often reflected more in the rhetoric of university Vice Chancellors than in practice. Research is often underfunded apart from the top universities in countries like the USA and the UK and the typical academic in majority of the universities is overburdened with teaching duties. On the other hand, the top universities are often accused of tilting more in favour of research at the expense of teaching.

Having said that, there is a certain consensus amongst policymakers and Vice Chancellors of universities that the Humboldtian University is the right model for the twenty-first century. From the extant literature the key attributes of the Humboldtian University in modern times can be surmised as (a) institutionalised academic freedom, (b) proportionately larger undergraduate cohort compared to the postgraduate one, (c) relatively high staff to student ratio and (d) research active teaching staff.

The Research University

The distinction between the Humboldtian University and the Research University is rather subtle and often commentators conflate the two together but important differences separate the two institutions. As the name suggests, Research University is predisposed towards research over teaching; hence, the Humboldtian unity of teaching and research is missing in such institutions to a large degree. Although some historians trace the origin of the Research University to Germany, the model undoubtedly reached its maturity in the USA during the Second World War. Huge public funding went into American universities to carry out both applied and basic research and this continued into the Cold War period after the end of the Second World War.

Research University is characterised by high level of public funding in support of basic and applied research and limited teaching mainly restricted to postgraduate and doctoral levels. The prime example of this is the John Hopkins University which has received a very significant level of state funding for research since 1942. John Hopkins was also the model that Jamsetji Tata had in mind when he wanted to establish the first Research University in India. The story of how he was thwarted in his endeavour is detailed in Chap. 4 through the case history of the Indian Institute of Science.

The Research University is often held as the pinnacle of the university system by commentators who point to the important role it plays in generation of original knowledge in the society. An important distinction also needs to be made between the Research University and the Research Institute. Both engage with advanced research but whilst the Research University undertakes teaching albeit in a limited manner, the Research Institute solely focuses on research. The comparative advantages of the two models have been debated by policymakers and academics, and they are important in the context of this book because, as we will see in later chapters, India eschewed the Research University in favour of the Research Institute. Many countries have experimented with the Research Institute model, but it has been found that most of the advanced research in developed nations is carried out through the Research University.[13] At least in the developed nations, the Research University has trumped the Research Institute as the primary loci of advanced research. Prima facie, it seems, there is an inextricable link between teaching and research—both tend to flourish when they cohabit together.[14]

Structure of the Book

The rest of the book is structured in the following way. In the next chapter (Chap. 2), the evolution of higher learning in India is traced out leading up to the establishment of the first batch of universities in 1857. Particular attention is paid to the changing socio-economic conditions that were reflected in some ways in the evolution of these higher education institutions.

Chapter 3 discusses the paradigmatic case of the University of Calcutta. The oldest and for a long time the biggest Indian university had the longest tenure under colonial administration and as such was affected by the higher education policies of the colonial government like no other. The British had a utilitarian approach to the Indian university system—its primary reason for existence was to serve the colonial enterprise. The university system, in this sense, was a part of the network of colonial institutions that also included the judiciary and the civil administration. Looked at from this perspective, it becomes clear why the colonial government instituted the Examining University model in India—it was inexpensive to administer and it provided graduates in sufficient numbers to staff the lower echelons of the government administration. But Calcutta University during the colonial era was not a mere passive recipient of colonial diktats.

Important initiatives came from within the University that challenged the utilitarian examination-oriented policies and attempted to introduce the Humboldtian unity of teaching and research. This struggle forms an important part of the narrative that is presented in this chapter.

The Research University was at the core of the plan that Jamsetji Tata presented to Lord Curzon for the establishment of a new postgraduate institution in the country in 1899. Indian Institute of Science (IISc), the institute that was eventually established in 1912 out of that original plan, did not fulfil the vision of the Research University in important ways. Chapter 4 traces the history of IISc placing emphasis on the initial years when the nature and the purpose of the institute were being contested by various parties.

The Autonomous Institutes constitute an important feature of the Indian higher education landscape. Indian Statistical Institute (ISI) is a prime example of such organisations. Starting its life in the colonial era in 1933, ISI gained national prominence in the planning era of India in the 1950s. ISI also belongs to the elevated class of Autonomous Institutes that have been conferred the status of being an 'institute of national importance'. Chapter 5 explains the reasons for meteoric rise of ISI in the post-independence period and the relative stasis that it experienced after 1964. The case history of ISI also explains, in part, why centres of academic excellence in India tend to reside outside of the mainstream university system. ISI started its life inside the confines of Calcutta University but its national and international fame came only after it had migrated out of the university system and established itself as an independent institute. The constellation of factors that prevents the full development of teaching and research excellence inside the university system is explored in this chapter.

Chapter 6 outlines the important developments that have shaped the Indian university system since the independence. One cannot understand India and/or its higher education system without giving due consideration to the ideas of Jawaharlal Nehru, the first Prime Minister of the independent nation. Nehru's ideas and his policies fundamentally shaped the contours of the higher education system in the country and by the time he departed from the scene, the main features of the current system were firmly in place. The chapter illustrates how the higher education system was seen as a tool for achieving the broader economic goals of the Central Government. This instrumental view of the purpose of higher education is paradoxically similar to the one that existed in the colonial era albeit with

different objectives. The chapter also provides an overview of the university system taking the view that it is fragmented in nature. Centres of academic excellence that one would expect to find within the mainstream university system are to be typically found outside of it. The reasons for this situation are linked with the higher education policies implemented by the Government in the post-independence period. The chapter concludes by highlighting some of the key challenges facing the system in the present time.

In the concluding chapter (Chap. 7), the key learnings from the preceding chapters are consolidated. L.P. Hartley in his novel *The Go-Between* said that 'the past is a foreign country; they do things differently there', only in the case of Indian university system, the past very much lives in the present. The colonial era has had an inordinate impact on the Indian university system. Moreover, the impact of reforms that were introduced during the initial couple of decades after independence has not been wholly salutary. As the subtitle of the book suggests, it has not yet fully emerged from the shadows of the past; the process of extricating the university system from some of the pernicious influences of the past is an ongoing one.

Notes

1. A google search of the title of this book 'A History of the Indian System' shows there is none with the name. There are some historical accounts of the Indian higher education system, with most of them pertaining to the pre-independence era.
2. Mokyr, Joel, 'Entrepreneurship and the Industrial Revolution in Britain', in The Invention of Enterprise: Entrepreneurship from Ancient Mesopotamia to Modern Times, ed. by David S. Landes, Joel Mokyr and William J. Baumol (Princeton/Oxford: Princeton University Press, 2010), pp. 183–210.
3. Douglass C. North, Institutions, institutional change and economic performance (Cambridge: Cambridge University Press, 1990).
4. Joel Mokyr, *The Enlightened Economy* (New Haven: Yale University Press, 2009).
5. Deidre N. McCloskey, Bourgeois dignity: why economics can't explain the modern world (Chicago and London: The University of Chicago Press).
6. Marx, Karl, and Frederick Engels, Manifesto of the Communist Party, 1848 http://www.marxists.org/archive/marx/works/download/pdf/Manifesto.pdf. p. 25.
7. Bayly, C.A, *The Birth of the Modern World 1780–1914* (MA/Oxford/Victoria: Blackwell Publishing, 2004). p. 7.

8. For a detailed historical perspective on modern universities, see James Axtell, *Wisdom's Workshop: The Rise of the Modern University* (New Jersey: Princeton University Press, 2016).
9. Data can be accessed from this link https://www.hesa.ac.uk/index.php?option=com_content&view=article&id=3790.
10. See Negley Harte, *The University of London 1836–1986: An Illustrated History* (London & Atlantic Highlands, NJ: The Athlone Press, 1986).
11. F.S Scott, *Wilhelm Von Humboldt and the Idea of a University: Inaugural Lecture of the Professor of German Delivered in the Appleby Lecture Theatre on 10 November, 1959* (Durham: University of Durham, 1960). p. 12.
12. Karl Jaspers, *The Idea of the University*, ed. by Karl W Deutsch, trans. by H.A.T. Reiche and H.F. Vanderschmidt (London: Peter Owen Limited, 1959). p. 21.
13. Stephan Vincent-Lancrin, 'What is changing in Academic Research? Trends and Futures Scenarios', *European Journal of Education*, 41.2 (2006).
14. Times Higher Education's 'World University Rankings 2015–16' demonstrates the linkage between teaching and research conclusively. The top five universities under the 'teaching excellence' parameter are the California Institute of Technology, Stanford University, MIT, University of Cambridge and University of Oxford. All the top five also feature in the top ten under the 'research' parameter. The rankings can be found at https://www.timeshighereducation.com/world-university-rankings/2016/world-ranking#!/page/0/length/25/sort_by/rank_label/sort_order/asc/cols/rank_only.

CHAPTER 2

Beginnings

The institution of higher learning in British India did not start with the establishment of the university system in 1857. Its origin can be traced back to the start of the British rule in India—to the time when the East India Company made the crucial transition from being a merchant trader to a landowner and a collector of taxes during the mid and late eighteenth century. Institutions of higher learning had always been a part of the colonial apparatus in British India. There was often a sharp divergence between the rhetoric of the colonial administration in matters relating to higher education and the actual policies. It is the argument of this chapter that the dominant motivations that underpinned these policies were political and economic. Whilst colourful rhetoric was strategically used by British administrators and educationalists in debates on higher learning in India, economic forces played a more fundamental role in setting up of the system and often remained implicit in the debate. But central they were, and this chapter will seek to demonstrate why they made the ideological victory of the Anglicists over Orientalists on the issue of the primary medium of delivering education to local Indians, less significant than what is usually made out to be.

The university system in India constituted an integral part of the institutional set-up of British India that was central to the task of administrating the colony. It was part of the network of institutions that also included the British-styled judicial system, the law enforcement machinery and the bureaucracy. Together they formed the institutional ecosystem that

S. Datta, *A History of the Indian University System*,
DOI 10.1057/978-1-137-53571-9_2

was instrumental in the smooth running of the empire. The symbiotic relationship between higher education and the broader colonial apparatus did not start with the establishment of the university system itself; its genesis can be traced right back to the first batch of institutes of higher learning in British India.

The only higher education institute in the pre-university era that deviated from the norm was Serampore College. Its motivation, ideology, medium of instruction all stood in stark contrast to that of Hindu College, the latter manifesting the anglicised higher education that was soon to be institutionalised through the establishment of the university system in 1857. Serampore College had to eventually discard its policy of imparting higher education in native languages, once the university system took roots in the society, and embraced the anglicised, examination-oriented system. The demise of the original pedagogy of Serampore College and the rise of the Hindu College were essentially two sides of the same coin, and this chapter aims to illustrate why this was the case.

Birth of Oriental Studies

Calcutta Madrasa was the first institution of higher learning set up by the East India Company in 1781, but it was the next in line which attained more fame; the Asiatic Society of Bengal was founded in 1784 and over a short period of time became the epicentre of oriental studies in India and abroad. This was followed by the Fort William College set up in 1800. The university system was established much later in 1857. The nature and purpose of these three institutions (Calcutta Madrasa, the Asiatic Society and Fort William College) differed fundamentally from the university system. The changing nature of institutions of higher learning in British India reflected the shifting sands in the political economy of the country.

The Calcutta Madrasa and the Asiatic Society of Bengal were formed in the backdrop of the East India Company gaining the *Diwani* of Bengal from the Mughal emperor in 1765, an event preceded by the decisive victory of the company over Siraj-ud-Daula in the Battle of Plassey in 1757. The *Diwani* conferred upon the company the right to collect revenue and transformed its nature. For over hundred years before the Battle of Plassey, the company had a presence in the country and though its influence in domestic political economy had been steadily on the ascendance, the primary nature of the company continued to be that of a merchant

trader. It needs to be noted that the change in the nature of the East India Company coincided with falling profits from its trading operations that made the transition more of a necessity than an alternative that they could opt out of if so desired.[1] Without the revenues gained from land taxes in Bengal, it is highly unlikely that the British would have embarked on their empire building in India as the profits from trading operations of the Company would not have been sufficient for the purpose.[2] This changed decisively after the Battle of Plassey and the gain of the *Diwani* of Bengal by the Company. Faced with the task of collecting land taxes, the Company turned its attention to setting up of an administrative structure that would enable it to do so. Warren Hastings, the first Governor-General of India (1773–1785), was at the forefront of this initiative. Hastings preferred gradualism and resisted making wholesale changes to the legal and administrative structure that was in place at the time. He was also sensitive to local culture and believed that local laws and customs need to be respected. He felt that colonial administrators would need to learn local languages, various local social and cultural norms and also indigenous legal customs.

This desire of gaining local knowledge for efficient administration led to the establishment of the Asiatic Society in 1784. It also led directly to the development of the concept of *Orientalism*. The idea of *Orientalism* gained a somewhat sinister connotation over the years especially with the writings of Edward Said. In such a conception, *Orientalism* is a way that imperial powers create differences between them, the rulers, and the vast majority of the population that they rule. Oriental studies, by creating a discourse around 'enduring differences' that exist between the rulers and the ruled, allowed for discriminatory practices against the indigenous population. David Kopf has argued forcefully against this abstract notion of *Orientalism* by suggesting that this, at least in the context of India, was an enterprise that was rooted in the practical business of running the empire that necessitated gaining of local knowledge.[3] In the case of India, an unintended outcome of such studies on ancient texts was that it led to an appreciation of the rich cultural and literary heritage that India enjoyed, which ultimately led to the creation of a national consciousness and identity.

The Asiatic Society in fact was the beginning of a recurrent theme in British India, that of making institutions of higher learning subservient to the needs of the empire. Notwithstanding the genuine interest that Hastings harboured on Indian culture and language, the purpose of the

Asiatic Society was essentially pragmatic from the British perspective—that of codifying Hindu and Muslim laws that are embedded in texts, religious or otherwise, for English judges to rule on local matters and educating English administrators on local customs and practices. Hastings felt that an institute such as the Asiatic Society would help in contributing to the smooth administration of the empire. He subscribed to the idea that Indians should be governed by Indian principles to the extent that is feasible under colonial administration.

In writing to the Court of Directors explaining his vision of British governance in India, Warren Hastings stated that it was based on

> principles of experience and common observation, without the advantages which an intimate knowledge of the theory of law might have afforded us: We have endeavored to adapt our Regulations to the Manners and Understandings of the People, and the Exigencies of the Country, adhering as closely as we are able to their ancient uses and Institutions.[4]

The process of deciphering the legal code from ancient texts in fact started prior to the establishment of the Asiatic Society with Hastings commissioning Nathaniel Brassey Halhed to carry out a project of translating relevant material from Sanskrit into English. Halhed was not an expert on Sanskrit though he was familiar with Bengali and Persian. The project involved a double translation from Sanskrit to Persian and from Persian to English and was done with the help of local Brahmins from Bengal.[5]

Warren Hastings presented the translated text titled 'Code of Gentoo Laws' to the Court of Directors of the East India Company in 1775. In the forwarding letter, he wrote

> I have not time to offer any observations upon these productions; indeed they will speak for themselves. I could have wished to have an omission or amendment of some passages to have rendered them more fit for public eye; but the Pundits, when desired to revise them, could not be prevailed upon to make any alternations, as they declared they had the sanction of the Shaster, and were therefore incapable of amendment; possibly these may be considered as essential parts of the work, since they mark the principles on which many of the laws were formed, and bear the stamp of remote antiquity, in which the refinements of Society were less known, and the manners more influenced by the natural impulse of passions.[6]

The 'public eye' which Hastings refers to in the letter is of course that of the British as the document was for their consumption and Hastings was

reminding the Court of Directors that its purpose was to decipher the laws that have been practised locally since 'remote antiquity'.

Halhed in his introduction is more direct about the purpose of this scholastic endeavour:

> The importance of commerce in India, and the advantages of a territorial establishment in Bengal, have at length awakened the attention of the British legislature to every circumstance that may conciliate the affections of the natives, or ensure stability of the acquisition. Nothing can so favourably conduce to these two points as a well timed toleration in matters of religion, and an adoption of such original institutes of the country, as do not immediately clash with the laws or interests of the conquerors.[7]

The motivation of the translation is thus not mere scholarly curiosity but owes more to the practical objectives of doing trade and administering the land. Halhed elaborates later in the document:

> From hence therefore may be formed a precise idea of customs and manners of people…From hence also materials may be collected towards the legal accomplishment of a new system in Bengal, wherein the British laws may, in some degree, be softened and tempered by a moderate attention to the peculiar and national prejudices of the Hindoo; some of whose institutes; however fanciful and injudicious, may be preferable to any which could be substituted in their room. They are interwoven with the religion of the country, and are therefore revered as the highest authority.[8]

The scholarly value of the work was questioned later and Halhed's dependence on local Brahmins for the interpretation of Sanskrit texts has been cited as one of the factors that have contributed to the deficiencies that can be found in the work. However, the more pertinent objections relate to the ontological issue: did the actual customs and practices that were prevalent in Bengal and elsewhere closely mirror the principles that were referred to in these texts? Later scholars[9] have established that the actual practices were much more fluid than the manner in which they were prescribed in the ancient texts and the British through their enterprise of codifying these norms for usage in legal cases actually made them more rigid in practice,[10] a case of misguided epistemic efforts that ended up affecting in a perverse way the very social reality that was being investigated.

William Jones, the founder of the Asiatic Society, was also a Supreme Court judge. As alluded to earlier, the judiciary and later the civil service often shared common purposes with institutes of higher learning in

Colonial India and it is almost impossible to analyse the evolution of the latter without paying attention to the first two.

Similar to Halhed and Hastings, Jones's interest in Sanskrit was born to some extent out of the necessity to interpret ancient texts for legal uses. An illustration of this can be found in the letter he wrote to Charles Wilkins, a fellow founder of the Asiatic Society, in 1785. Charles Wilkins was an expert in Sanskrit and was based at the time in Benaras where he consorted with local Brahman *pandits* in the matter of Sanskrit language. Jones writes in his letter:

> You will much oblige me, and greatly benefit the publik, if you will inform me, either from your own knowledge, or by the help of your Pandit, 'whether the crime of perjury be expiable by any religious acts or atonements, and what kind of oath, if any, is held so solemn, that no expiation or absolution will atone for a wilful violation of it'. The beginning of the 8th chapter of Menoo[11] has some rules on the form of Oaths.[12]

The letter demonstrates that by that time Jones had already acquired certain knowledge about Sanskrit texts but implicit in the cited quote is the frustration he felt having to depend on others for deciphering legal codes from Sanskrit. This motivated him to learn Sanskrit as he explains in a letter written in late 1785:

> I am proceeding slowly, but surely…in the study of Sanscrit; for I cannot no longer bear to be at the mercy of our pundits, who deal out Hindu law as they please, and make it at reasonable rates, when they cannot find it readymade.[13]

The concurrence of motives behind the establishment of the Asiatic Society and Calcutta Madrasa, the other centre for oriental learning, can be gleaned from the following excerpt from the proceedings of a meeting of the Asiatic Society held on 17 May 1785:

> Read an extract of a letter from the Governor General, proposing that a Member of the Society conversant in the Mahomedan Laws and Customs be desired to visit the Medrasah once a month, and report to the Society the state of the College and the progress of students.
>
> The President seconds the Governor General's proposal, and moves that Mr William Chambers be requested to visit the College and make the above Report to the Society.[14]

The Asiatic Society was very much an institute of its time. The institute directly contributed to the administration of the empire and this was the basis of its patronage by East India Company officials. However, somewhat ironically it was the concentration of the same movement which made the Asiatic Society a key component of the Company's administrative strategy that eventually made it largely irrelevant in the governance of the country. The control of the British Government over the affairs of the East India Company had been on the ascendancy since the Regulating Act of 1773. Hastings' appointment as the first Governor-General of India signalled the beginning of this reform movement. More control was transferred to the Parliament through Pitt's India Act of 1784 and the process gathered speed with the appointment of Lord Cornwallis as the second Governor-General of India in 1786. With the expansion of the empire, which coincided with the desire for more hierarchical control of the Parliament that was to be exercised from London, Hastings's vision of local governance through essentially indigenous intermediaries became increasingly remote and the logic of an administrative system that was dominated by British bureaucrats became more obvious to the Board of Control (which represented the British Parliament) and the Court of Directors (which represented the East India Company), the two bodies that jointly governed Colonial India at the time.

While the Asiatic Society fitted in nicely within a governance system that gave pre-eminence to local language, customs and laws and that considered local intermediaries as vital to the smooth functioning of administration, its raison d'être was diluted considerably in an environment where English ideologies, laws and language became the dominant forms at the expense of local varieties. The process gathered pace with the appointment of Cornwallis as Governor-General and though important changes on the judicial and administrative structures were made throughout his tenure (1786–1793), the critical ones came towards the end of his term. The Charter Act of 1793 and the Permanent Settlement system of the same year consolidated a governance system that was increasingly being remade in the image of the one that existed in Britain. Several historians[15] have pointed out the influence of 'Whig' philosophy that underpinned much of these reforms. The administrative reforms of Cornwallis had the effect of removing local Indians from all sections of the judicial and administrative system except for those at the bottom of the hierarchy.

This process further solidified during the regime of Richard Wellesley who was Governor-General for a relatively brief period between 1798

and 1805. As the need for British administrators grew out of the policies implemented by Cornwallis, Wellesley led the next big initiative in higher learning in India. Fort William College was established by Wellesley in 1800 as an institution that would train British civil servants for service in the country. The pragmatic nature of Fort William College was declared at the outset in a very explicit fashion by Wellesley unlike the case of the Asiatic Society whose role in the administration of British India was largely implicit.

He articulated the rationale for setting up a college at Fort William in a detailed Governor-General's note in 1800 and it is worthwhile to quote from it in length as it not only illustrates Wellesley's vision of the institute, but also illuminates the changing nature of the British Raj, from merchants to administrators.

Wellesley anticipated that civil servants would increasingly play a key role in the maintenance of the British Raj and explains how the changing nature of the East India Company in India makes this a certainty:

> The British possessions in India now constitute one of the extensive and populous empires in the world. The immediate administration of the Government of the various provinces and nations composing this empire is principally confided to the European civil servants of the East India Company…The duty and policy of the British Government in India therefore require, that the system of confiding the immediate exercise of every branch and department of the Government to Europeans, educated in its own service, and subject to its own direct control, should be diffused as widely as possible, as well with a view to the stability of our own interests, as to happiness and welfare of our native subjects. This principle formed the basis of the wise and benevolent system introduced by Lord Cornwallis, for the improvement of internal Government or the provinces immediately subject to the Presidency of Bengal.
>
> In proportion to the extension of this beneficial system, the duties of the European civil servants of the East India Company are become of greater magnitude and importance: the denomination of writer, factor, and merchant, which the several classes of the civil service are still distinguished, are now utterly inapplicable to the nature and extent of the duties discharged, and of the occupations pursued by the civil servants of the Company.
>
> To dispense justice to millions of people of various languages, manners, usages and religions; to administer a vast and complicated system of revenues throughout districts equal in extent to some of the most considerable kingdoms in Europe; to maintain civil order in the most populous and litigious regions of the world; these are now the duties of the larger proportion of the

> civil servants of the Company…Commercial or mercantile knowledge is not only unnecessary throughout every branch of the judicial department, …
>
> The Civil servants of the English East India Company, therefore, can no longer be considered as the agents of a commercial concern. They are in fact the ministers and officers of a powerful sovereign; they must now be viewed in that capacity, with reference, not to their nominal, but to their real occupations. They are required to discharge the functions of Magistrates, Judges, Ambassadors, and Governors of provinces, in all the complicated and extensive relations of those sacred trusts and exalted stations…Their duties are those of statesmen in every other part of the world, with no other characteristic differences than the obstacles opposed by an unfavourable climate, by a foreign language, by the peculiar usage and laws of India, and by the manner of its inhabitants. Their studies, the discipline of their education, their habits of life, their manners and morals should, therefore, be so ordered and regulated as to establish a just conformity between their personal consideration, and the dignity and importance of their public stations, and to maintain a sufficient correspondence between their qualifications and their duties. Their education should be founded in a general knowledge of those branches of literature and science which form the basis of the education of persons destined to similar occupations in Europe. To this foundation should be added an intimate acquaintance with the history, languages, customs and manners of the people of India, with the Mahommedan and Hindoo codes of law and religion, and with the political and commercial interests and relations of Great Britain in Asia.

To satisfy what he considered unique education needs of British civil servants in India, Wellesley proposed a truly innovative educational set-up in Fort William. Wellesley's vision was that he would attract professorial talent from Europe who would teach side by side with native professors. To this effect he states:

> With respect to Professorships, those which relate to the languages will be best filled in India; and the Governor-General entertains little doubt, that he shall soon be able to fill them permanently, in an efficient manner…The persons properly qualified to fill certain of the other Professorships must be sought in Europe. The Institution will be so framed as to offer strong inducements to such persons; and the Governor-General will endeavour, at the earliest possible period, to secure the assistance of talents, learning, and morals from Europe, adapted to the great purposes of this Institution.

But this grand vision of Wellesley did not materialise. Although the Institute was established, its scope was much narrower than what was

originally envisaged by Wellesley. What Wellesley had in mind closely resembled a full university education for British civil servants. Following is what he proposed as the full range of studies to be delivered to students in the College:

> Languages—Arabic, Persian, Shanscrit, Hindoostanee, Bengali, Telinga, Mahratta, Tamul, Canara; Mahomedan law, Hindu law, ethics, civil jurisprudence, and the law of nations; English law; the regulations and laws enacted by the Governor-General in Council, or by Governors in Council at Fort St George and Bombay respectively, for the civil Government of British territories in India; political economy, and particularly the commercial institutions and interests of East India Company; geography and mathematics; modern languages of Europe; Greek Latin, and English Classics; general history, ancient and modern; the history and antiquities of Hindoostan and the Deccan; natural history; botany, chemistry, and astronomy.

The curriculum can indeed be compared to what was then being delivered in the top universities in Britain with the added emphasis on local languages and institutions which was the basis of its institutional innovation. However, Fort William College ultimately taught local languages and little else to aspiring British civil servants in India.

The reasons that led to this reduction of scope for the College and its effect are both significant in the context of evolution of higher education in India. The severe restrictions that were imposed in terms of what could be taught in Fort William College need to be put in perspective. The refusal of the Court of Directors to fund a full-fledged university akin to the higher education system in India for British civil servants had its basis on two distinct chains of events. The first was the long-running hostility between the Directors of the Company and successive imperial-minded executives during the period between 1757 and 1800 in British India. Second was the rise of evangelism amongst certain key members of the East India Company.

In relation to the former, the seed of the conflict was in fact sown the moment the East India Company transitioned from being a mere merchant body to one that had to administer governance and collect revenue from land holdings. The transition meant that the Company became a proto-colonial power in 1757, a process that was further concretised through the gain of *Diwani* or the right to collect taxes in Bengal, Bihar and Orissa. The metamorphosis of the Company from a trading entity to a political power also meant that it became increasingly difficult for it to

keep the state out of its affairs. Politicians back in Britain grew increasingly vocal in their demand that the state assume direct control of the Company's affairs as it was now a political entity.

The Company had always striven to keep the state at arms' length out of fear of losing control of its own affairs and it understood all too well that colonisation would inevitably lead to this situation. While in paper, the Company ran a very hierarchical organisation where decision-making was centralised in the headquarters at Leadenhall Street in London, it was often the case that its executives on the ground took actions that directly contradicted the dictates that were issued by the management. One prime example of this was the acquisition of Bengal itself. The *jagir* (land) that Clive acquired after the Battle of Plassey and the related revenues that he claimed were his 'dues' directly led to a confrontation with the Directors. The Directors claimed that Clive, as a servant of the Company, had no right to acquire such a property while Clive differed in his views. To resolve the issue, the Chairman of the Company, Sulivan, had to appeal to the Parliament to become involved in the affair. Clive's *jagir* payment was suspended but the state had to eventually request him to take charge of affairs in Bengal again as the situation became unstable with Mir Jafar and this ultimately led to him negotiating the *Diwani* rights from the Mughal emperor in Delhi. But Sulivan's action sparked a process in which the state increasingly became involved with the inner workings of the organisation.[16]

The state was now intrinsically involved in the running of the Company in British India and the tension between the Court of Directors and the Crown would continue throughout the Company's organisational life until its demise in 1858. This tension reached a high point during Wellesley's time. Two things that disturbed the Directors of the Company the most were, first, the issue of territorial expansion which they looked upon as a way of the state gaining ever more control over company affairs, and, second, the matter of private trade. The Company cherished its monopoly of trading rights in India and correctly viewed the continuance of it as the primary mean of survival as a meaningful trading entity. Concurrent with the monopoly trading rights was also the shipping rights that the Company enjoyed, the privilege of supplying the shipping vessels on which trading goods were shipped into and from India.

Wellesley's policies directly threatened the Company's position on both accounts. Through his territorial conquests, he heightened the 'colonisation' fear of the Directors and he simultaneously moved to expand private

trade and remove exclusive shipping rights enjoyed by the Company. It can be suggested reasonably that he started too many battles with the Directors at the same time and this ultimately led to the demise of the Fort William College. The Directors were ready to give the Governor-General a dressing down, and his plan for Fort William College provided a golden opportunity for them to do this.

One person who was capable of saving Wellesley's plan was Charles Grant. Grant was immensely influential within the Company subsequently assuming the positions of Deputy Chairman and Chairman of the organisation and it was to him the Directors looked for advice regarding Wellesley's plan. Grant was decidedly cool on the proposal but he saw merits in it. Grant's reason for rejection of Wellesley's grand vision was more complex than the more pecuniary rationales of the Directors. Grant revealed in a letter to his brother-in-law the real motive of the Directors behind their rejection of Wellesley's plan. 'It is singular enough,' he wrote, 'that he (*Wellesley*) himself inadvertently furnished the means of defeat. His letter to the Court on enlarging the privilege of private traders arrived opportunely for that party to support their declining cause.'[17]

Grant opposed Wellesley's plan not only due to the Governor-General's expansionist policies and his effort to relax rules relating to private trade but also on the grounds that the plan if carried through had the potential to corrupt the 'moral character' of the staff of the company. For Grant, Wellesley's suggestion that young men should arrive at the age of between fifteen and sixteen to undergo training at the College for a period of three years was undesirable. Following is how he perceived the problem:

> The Governor-General's plan requires that young men should leave this country at the age of fifteen or sixteen. This is an impracticable condition. Relations and friends will send their connections at the period that suits them best within legal limits; and we are of opinion, on the whole, that it is more expedient young men should go out rather two or three years later than at those ages. If their principles have not been well formed, the effects will appear even at the earlier periods; if they have, they may remain with superior advantage some time longer at home, and both receive a greater portion of liberal learning and stronger habits of attachment to the religion and constitution of their native country, which must be peculiarly desirable at a time when so many novelties in morals and in politics have been set afloat in the world.[18]

Grant here reveals his fear of '*Indianisation*' of Company servants if Wellesley's plan came to fruition. Prolonged stay in the country during the formative years of young civil servants could lead to assimilation of local culture to such an extent that they lost touch with traditions and religion of the home country and Grant found such a scenario particularly distasteful. Developing an understanding of local institutions and culture was precisely the motive behind Wellesley's plan to set up the College in Calcutta and to achieve this he felt that company servants needed to be trained where they are going to ultimately serve. Hence, there was a fundamental disagreement between Wellesley and Grant on the matter of the location of the College. Grant agreed with the general idea of setting up an institute for training Company staff; indeed, he found little disagreement with the changing nature of duties of civil servants as so eloquently expressed in Wellesley's letter to the Court of Directors and the need to develop a certain ethos of public service and moral outlook within them. Being an evangelical Christian who firmly believed that the spread of Christianity in British India would be a force of good, he regarded many native institutions corrupt in nature that needed to be reformed and not be inculcated into. Rise of evangelism in India would subsequently affect higher education in a profound way, but for the moment, Grant's orthodox religious views put a firm brake on Wellesley's plan to develop the College into a university-like institution of higher learning in India.

Grant was instrumental in setting up East India College in Britain in 1804, an institution that practically delivered all what Wellesley planned for the College at Fort William. Though Grant later claimed that he had conceived the plan for East India College independent of Wellesley,[19] there is no evidence of this in his official communications or in private papers.

The impact of the false start of Fort William College on higher learning in India has been grossly underestimated in prevailing accounts of history of Indian higher education in general and of the College in specific. The rippling effect of the scaling down of the scope of the College has been felt in three ways. First, the setting up of a truly university-like higher education system in India was delayed considerably as the formal university system was established much later in 1857. Second, the formal university system when it was later established had a scope and vision that were much less inspiring than what Wellesley in mind. This is mainly due to the fact that Wellesley's college was meant for education and training of British civil servants while the university system was restricted initially to examination of local students and only much later teaching was

introduced. From the British perspective, the university system became a critical implement for running of the Raj, as an anglicised judiciary and administrative structure combined with an expanding empire meant that local talent that were sufficiently educated in English needed to be recruited in greater numbers. The questions that would necessarily arise here are, if Wellesley's original plan came to fruition, would local Indians have benefited from it as it was meant for training of British civil servants? Could the College fundamentally change the nature of higher education in India?

'What if' questions are speculative by nature but it is rather difficult to imagine that the existence of a university-like higher education institution for training of British civil servants would not have affected a system for education of natives in a significant way. As the empire expanded and concurrently the anglicised judicial and administrative structure grew, the necessity for recruitment of local talent to fill up different bureaucratic positions grew ever stronger. One of the key motivations behind the setting up of a university system was to ensure that indigenous human capital possess the necessary linguistic skills to function effectively in various public services including the Government bureaucracy and the judiciary. It is thus not unreasonable to assume that if the College was a fully formed higher education institution that was training British civil servants, the same facility would have been extended to local talent in some form as and when they became eligible for public services.

But an even more significant impact of the narrow scoping of the College was the way it contributed to the creation of the 'other' in the mind of the ruling elite. True to Grant's wish, the focus of training of British civil servants working in India moved to East India College in Britain, where, divorced from local institutions, a sense of racial superiority over the people they were to govern solidified in their psyche. Just to give an example, one of the key readings of the students at East India College was James Mills' *History of India*. This patently misguided account of Indian history written by someone who never visited India and one that was full of errors and racial bias formed in part the lens through which these future civil servants viewed India when they arrived on its shores.

With the transition of power to the Crown in 1857 which resulted in the demise of the East India Company, East India College was closed and a system of competitive examination to select candidates for the Indian Civil Service (ICS) was instituted. In later years as opportunities in the higher echelons of the ICS opened up for local talent, they had to make the arduous

and prohibitively expensive journey to an alien land to appear for the exam. Needless to say, very few made the journey and even fewer succeeded in clearing the exam and got eligible for service in the ICS. The ones that did get through and became a part of the ICS faced racial discrimination and thus, not surprisingly, when the nationalist movement took roots in the later part of the nineteenth century, the core of it was formed by native ICS bureaucrats such as Surendranath Banerjee and R.C. Dutt. The local intelligentsia often saw the entire process—the competitive exam being held overseas and the discriminatory practices of the ICS—as designed to keep the natives out of the top layer of the administrative structure. It is debatable whether things would have been significantly better for the natives if Wellesley's vision of 'Oxford of the East' materialised in Calcutta but it is certainly plausible to claim that there would have been a very different process of selecting local Indians for the ICS.

Hindu College and Serampore College: Genesis of a University System in India

With the fate of Fort William College sealed, the next impetus for higher learning in the country came from two sources, each distinct from the other. By the early nineteenth century, there emerged in Bengal a class of native Indians who were exposed to Western ideas and knowledge through close contact with Europeans and self-tutoring. Not coincidentally, they invariably belonged to the affluent section of society—those who could afford to contemplate and muse and not spend their waking hours working towards subsistence. This section of the populace eventually became desirous of educating their children in the English language and in Western ideas no doubt also with an eye on lucrative Government job opportunities that were increasingly available and which they correctly estimated would require natives who were able to communicate effectively in English. Quite fittingly, given the colonial interest though kept an implicit level, the meeting in which the plan was given a form was held at the behest of the Chief Justice of the Supreme Court, Edward Hyde East, in his house in 1816. In 1817 Hindu College was established.

The political economy by this time had undergone further changes from the time of Wellesley. Most significant of these changes was ushered in by the Charter Act of 1813. Through this Act, the monopoly of trading rights with India that the Company had enjoyed for over hundred years was decisively broken. The change was brought about by two factors, one

a continuation of a long-established trend and the other relatively recent. As discussed already, the original activity of the East India Company, that of exporting produces of India, including finished goods to Britain, had diminished considerably and the Company had long been reliant on land revenues to sustain its operations in the country. This change in the nature of the Company made it increasingly susceptible to the risk of removal of its monopoly trading rights. But the factor that made the abolition of monopoly trading rights a certainty was the emergence of a strong industrial class in Britain and burgeoning purchasing power of a growing upper and middle class of native Indians. The industrialists saw India as a market for their industrial goods and lobbied hard with the Government for removal of the monopoly of the Company and succeeded. Classic colonial economy pattern took root in India; the country transformed itself from an exporter of finished goods such as textiles which was paid in bullion by the Company to an exporter of raw materials such as cotton that was financed by import of finished industrial goods—the core–periphery relation firmly established.

The other significant change brought about by the Charter Act of 1813 was the removal of restriction on missionary activities in the country. Before this time, missionaries were not officially allowed to carry out their activities out of fear of upsetting local customs and religious beliefs. However, this attitude of the Company was changing over a period of time. It was the evangelical Christian beliefs of Charles Grant, later Chairman of the Court of Directors, that were, in part, responsible for disrupting Wellesley's plan for Fort William College in 1801.

While Hindu College was born out of both a non-pecuniary interest in Western ideas and knowledge and a more practical motive of securing jobs in an anglicised bureaucracy and judiciary, Serampore College was established out of the freedom provided through the Charter Act to Christian missionaries to propagate their religion amongst the natives of the country. The College was established in 1818 (a school preceded the formation of the College) by what has subsequently come to be known as the Serampore trio of William Carey, Joshua Marshman and William Ward. These missionaries belonging to the Baptist Missionary Society in England had the original idea of spreading Christian religion amongst the natives through their own vernacular rather than through the alien English language.

In the early 1800s evangelism had been on the rise in India for some time checked only by the reluctance of the East India Company to allow

missionary activities in the country out of fear of disruption of local institutions that could potentially lead to unrest amongst the native population. From the very outset, education of the natives was the main tool of the missionaries to effect religious conversion of local 'heathens'. Whilst they shared this common objective, the missionaries differed in their approach to the education of natives. Serampore College had a vernacular-based educational strategy, whilst missionaries like Alexander Duff belonging to the Church of Scotland believed that English was the right medium to encourage education and Christian ideals amongst natives. The differences between the two approaches also played out later in a very real and public conflict that came to be characterised as the spat between the 'Orientalists' and the 'Anglicists'. The Serampore approach was based on the idea that the spread of Christianity amongst natives would be quickest if they were introduced to the religion in their own language rather than in English. To this effect they set up school and later the college in Serampore in 1818 that emphasised imparting education along with Christian ideals in Bengali, the local vernacular. The approach was illustrated in the pamphlet that John Marshman wrote in 1827 to justify the educational initiatives which the Serampore missionaries undertook.

> The course which the Serampore brethren have pursued for these twenty seven years past, it will be on reflection be evident, decidedly led them to an institution of this nature (the Serampore College) as the means of rendering effectual, what they had already attempted with the hope of propagating Christianity in India. They first made their object to translate into vernacular dialects of India…that Sacred Volume which has dispelled the darkness of idolatry throughout Europe…In the meanwhile, elementary schools, which might enable the rising generation…to read the Scriptures thus translated, and to hear and understand the gospel when it might hereafter be preached to them, appeared valuable and important auxiliaries in the work. These elementary schools, however, could do little towards furnishing their countrymen with the knowledge requisite for so great a work as propagating Christianity in a country like India…Such then, being the origins of Serampore College, its great object, when viewed in all its bearings, will appear to be that of effectually promoting the progress of Christianity, as revealed in the Scriptures.[20]

The desire of creating cohorts of native missionaries by propagating Christian ideals in local dialects through translated works, schools and ultimately college was then the guiding principle behind the scholarly and

educational efforts of Serampore missionaries. Serampore College in fact became the first institution in India to attain university status though this accreditation was gained from the Danish Government[21] and not from the British. An unintended but undoubtedly profound effect of this focus on the local vernaculars was the boost it gave to these languages. Bengali, in particular, benefited enormously from the efforts of William Carey (one of the founding members of the College) to codify the language that included production of the first Bengali dictionary and this fact has been widely recognised. The early start that Serampore College enjoyed in terms of the establishment of an institute that had genuine aspirations to transform itself into a university that focused on education of local Indians in their own language did not materialise into something substantial. Notwithstanding its positive impact on the Bengali vernacular, its effect on the university system that was to later form in India was largely marginal. This was certainly not due to the quality of the faculty or the curriculum which were both exceptional; rather, it had to do with a fundamental problem with its approach, that of choosing the local vernacular as the medium of instruction. To put the matter plainly, a higher educational strategy that used the local vernacular as the medium of instruction did not serve the purpose of the ruling elite who governed the country through an anglicised bureaucracy and judiciary. As a consequence, Serampore College was perennially starved of funds and ultimately had to anglicise its curriculum during Bentinck's Governor-Generalship. It is illustrative to contrast Serampore's experience with that of Hindu College. While the former hardly enjoyed any Government patronage throughout the time it pursued a vernacular-based educational strategy, the explicitly anglicised Hindu College started its life with the blessings of the Government and later received direct funding from the state, a situation that continued till it mutated into Presidency College in 1855 after the state assumed full control of the affairs of the College.

Macaulay's Minute and the Emergence of an Anglicised Proto-University System

Perhaps no other document has been given so much pre-eminence in prevailing accounts of the higher educational system in India as that accorded to Thomas Babbington Macaulay's Minute on Education of 1835. In fact, a significant number of such accounts take the Minute as the starting point as if this single document was instrumental in initiating a chain of

events that culminated in the formation of the formal university system in 1857. The discussion in the preceding sections should have demonstrated that this was not the case. The Asiatic Society, Fort William College and Hindu College have all been institutions of their time. The contours of these British-led or -supported institutions of higher learning had been inexorably shaped by political and economic forces that were prevalent at the time suitably supported by ideologies that were synchronised to them. The formal university system that emerged in 1857 is no exception to this discernible pattern; Macaulay provided the ideology while the dynamics of the political economy of mid-nineteenth-century British India formed the silent but dominant forces behind its inception.

Cornwallis during his tenure as Governor-General of India (1785–1793) sought Europeanisation of the civil service by removing native agencies from any worthwhile position in the Government. It was a feasible option as British India at the time comprised little more than the territories of Bengal, Bihar and Orissa. But as the Empire continued to expand through territorial acquisition of Wellesley and others, this exclusivity of Europeans in public services in British India became difficult to sustain. It became increasingly clear to the ruling elite that the dismissive attitude of Cornwallis towards the natives when he proclaimed 'Every native of India, I verily believe, is corrupt'[22] could not be translated into an operating principle in the staffing of public services.

By the early nineteenth century, any mercantile pretensions that the Government may have entertained had been shed, and it was comfortable in its role of administrating and governing its territorial acquisitions in India. One of the main aims of Bentinck when he assumed Governor-Generalship of India was to reduce the cost of administrating the country[23] and for him employing native Indians who had to be paid a much lower salary than to any European was almost a commonsensical decision to make. So in a way this was a throwback to the times of Warren Hastings when native agencies played a prominent role in the governance of the state but with a crucial difference. In Hastings's time local customs and practices constituted the mainstay of the governance system but by Bentinck's time, an anglicised civil service and judiciary had taken root. Rather than the governance system adapting to local conditions, the effort was now to adapt the locals to an alien system. To both Bentinck and Macaulay, the implication of the situation was clear—the country urgently needed cohorts of natives that were trained in the English language and other English institutions that were transplanted in India up to a required

standard so that they were able to perform in various public services. The process had already started with the establishment of the Hindu College but it gathered pace under Bentinck's efforts to reduce the cost of running the British Empire in India. From this perspective what Macaulay said in his Minute is neither very original nor radical. The notoriety or popularity, depending on one's perspective, of the document arises from the punchy writing style and his disparagement of India's culture and heritage.[24] For example, consider the following much quoted paragraph from the Minute:

> It is, I believe, no exaggeration to say that all the historical information which has been collected from all the books written in the Sanscrit language is less valuable than what may be found in the most paltry abridgments used at preparatory schools in England.

This kind of inflammatory writing was sure to rouse passions of those who believed in the superiority of Western knowledge over the oriental one as well of those who thought that the East had something unique to offer to the world. Macaulay no doubt forcefully argued for anglicisation of the curriculum and the introduction of Western science as part of it, but many of the arguments were rephrasing of earlier opinions and Macaulay himself acknowledged this fact. In fact, one of the more substantive arguments that Macaulay put forward in the Minute was about how local Indians were desirous of availing Western science and English language, how the ruling Government had not fulfilled this indigenous demand and whenever such opportunities had been available to them they had demonstrated that they were more than capable of mastering the language. He writes:

> It is taken for granted by the advocates of oriental learning that no native of this country can possibly attain more than a mere smattering of English. They do not attempt to prove this. But they perpetually insinuate it. They designate the education which their opponents recommend as a mere spelling book education. They assume it as undeniable that the question is between a profound knowledge of Hindoo and Arabian literature and science on the one side, and superficial knowledge of the rudiments of English on the other. This is not merely an assumption, but an assumption contrary to all reason and experience. We know that foreigners of all nations do learn our language sufficiently to have access to all the most abstruse knowledge which it contains sufficiently to relish even the more delicate graces of our most idiomatic writers. There are in this very town natives who are quite competent to discuss political or scientific questions with fluency

> and precision in the English language. I have heard the very question on which I am now writing discussed by native gentlemen with a liberality and an intelligence which would do credit to any member of the Committee of Public Instruction. Indeed it is unusual to find, even in the literary circles of the Continent, any foreigner who can express himself in English with so much facility and correctness as we find in many Hindoos.

Ostensibly the Minute was written to clarify to what purpose the rupees sanctioned by the Charter Act of 1813 towards education of natives could be put to use. Orientalists believed that the money should be used to promote languages such as Sanskrit and Arabic while Anglicists like Macaulay wanted to promote the English language. Macaulay sums up his Minute in the following way:

> I think it clear that we are not fettered by the Act of Parliament of 1813, that we are not fettered by any pledge expressed or implied, that we are free to employ our funds as we choose, that we ought to employ them in teaching what is best worth knowing, that English is better worth knowing than Sanscrit or Arabic, that the natives are desirous to be taught English, and are not desirous to be taught Sanscrit or Arabic, that neither as the languages of law nor as the languages of religion have the Sanscrit and Arabic any peculiar claim to our encouragement, that it is possible to make natives of this country thoroughly good English scholars, and that to this end our efforts ought to be directed.

The next paragraph, however, discloses the agenda that both Bentinck and Macaulay had embarked upon together:

> I feel…that it is impossible for us, with our limited means, to attempt to educate the body of the people. We must at present do our best to form a class who may be interpreters between us and the millions whom we govern,—a class of persons Indian in blood and colour, but English in tastes, in opinions, in morals and in intellect.

Here is a succinct statement of the purpose of the university system in British India though it formally came into being only after another twenty-two years. The focus on examination, lack of effort to spread higher education amongst masses, limited teaching and even lesser investments on research that characterised the university system in British India can be traced back to the idea of creating a 'class of interpreters' between the

rulers and the people they governed. This class comprised mainly of civil servants and lawyers, both of which the university system, when it came into being later, produced in abundance. Macaulay's Minute by itself does not convey the full extent of the anglicisation project that he and Bentinck had embarked upon. It is only when one considers the other contributions of Macaulay, the penal code that he helped design and reforms in the Civil Services that he initiated, it becomes apparent that anglicisation of the curriculum in higher education in India went hand in hand with the implementation of the British legal system in the country and staffing of the civil service with less expensive native officials. While others have, not incorrectly, linked these changes with the utilitarian ideas of Bentham,[25] it needs to be noted that such ideologies were implemented in India only within the broader project that the British were engaged in—that of running and maintenance of the imperial Raj.

Anglicisation of Indian education gathered pace after the Minute. Government displayed a new level of enthusiasm in propagating English education amongst the natives and this went hand in hand with the desire within the indigenous population to acquire knowledge of this foreign language. The craving of English language was undoubtedly fuelled by the prospects of lucrative Government jobs for those who were successful in mastering it. While before the Minute, Government role in anglicisation of the curriculum was largely through the backdoor, as in the case of Hindu College where the state provided financial support when fees were not sufficient to cover the expenses while letting the native agencies operate in the forefront, after 1835 state involvement became more direct. An institution that symbolises this change of mood is the Hooghly College. The genesis of the institution, which was established in 1836, demonstrates the fading appeal of oriental studies and ascendancy of the state in educational matters.

Hooghly College was founded when the Government had to decide what to do with the charity trust that was established by Mahomed Mohsin, an unmarried rich landlord in Bengal. The trust fell into ownership disputes after his death until the Government assumed control of it in 1835 and by this time the trust was in possession of a significant amount of money accrued through revenues from the estates from whose income it benefited.[26] There were proposals for setting up a Madrasa that would have perhaps received approval from the founder if he were alive, though he did not specifically mention anything about education in his trust deed. But imbued by the anglicising fervour in the wake of Macaulay's Minute

the Government decided to set up a college that would spread English education amongst the indigenous population. Students flocked to the new college and although the college infrastructure including books and teaching staff left much to be desired, it did not diminish their enthusiasm to acquire expertise in the English language. Hooghly College and Dacca College[27] were thus the new genre of higher education institutes in India that were established and governed by the state.

By the time of the Education Despatch in 1854, which effectively settled the matter of setting up a formal university system, India in general but Bengal more specifically had a network of colleges that were quite varied in their orientations and in ideologies that underpinned these institutions. Moreover, these colleges were set up by a heterogeneous mix of agencies that included indigenous intelligentsia, missionaries and the state. It needs bearing in mind that the Government got involved in setting up and running of colleges quite late in the day and the majority of the colleges in Bengal that became eventually affiliated with the University of Calcutta were products of private initiatives. In the next chapter, the founding model of the university system in India has been discussed in detail.

In conclusion it can be said that institutions of higher learning in British India did not start with the establishment of the university system in 1857; its genesis can be traced back almost eighty years to the establishment of the Asiatic Society of Bengal. For the ruling elite, higher learning in British India had always been a pragmatic affair, its purpose intrinsically linked with the running of the colonial enterprise. The establishment of the Asiatic Society happened when the nature of the East India Company was being transformed from that of a mercantile trader to that of a landowner and administrator. The two events were not coincidental; rather, they were causally linked. The need for an institution like the Asiatic Society directly arose from the administrative requirements of the nascent colonial Government in the late eighteenth century. As the administration became more anglicised over the years, a new form of institution in the shape of Fort William College came into being in the early nineteenth century, whose main purpose was to train civil servants for service in India. Even later Hindu College was established but this time through a partnership between the colonial administrators and local intelligentsia to cater to higher learning needs of local Indians who were also motivated to secure jobs in the ever expanding Government bureaucracy. Macaulay's Minute in 1835 settled the debate between Orientalists and

Anglicists on the medium of instruction for higher learning for indigenous Indians. After the publication of the Minute, there was never any doubt that English would be the primary medium of instruction in any higher learning initiative that received Government funding. The stage then was set for the establishment of the university system in India.

Notes

1. See Bayly, C.A, *Indian Society and the making of the British Empire*, The New Cambridge History of India, II (Cambridge: Cambridge University Press, 1988).
2. Ibid.
3. Kopf, David, 'Review: Hermeneutics versus History, Reviewed Work: Orientalism by Edward W Said', *The Journal of Asian Studies*, 39 (1980), 495–506.
4. Letter from the Governor-General and Council to Court of Directors, Fort William, 3 November 1772, printed in Great Britain, House of Commons, Reports from Committees of the House of Commons, 4: East Indies, 1772–3 (reprinted London, 1804): pp. 345–46.
5. Halhed, Nathaniel B, *A code of Gentoo laws: or, ordinations of the pundits. From a Persian translation, made from the original, written in the Shanscrit language* (London, 1781).
6. Ibid.
7. Halhed, Nathaniel B, *A code of Gentoo laws: or, ordinations of the pundits. From a Persian translation, made from the original, written in the Shanscrit language* (London, 1781). p. ix.
8. Ibid.
9. See, for example, Bayly, Susan, *Caste, Society and Politics in India from the Eighteenth Century to the Modern Age*, The New Cambridge History of India (Cambridge: Cambridge University Press, 1999).
10. See Cohn, Bernard, 'Colonialism and its forms of knowledge: The British in India', in *The Bernard Cohn Omnibus* (Oxford: Oxford University Press, 2004).
11. *Manava Dharmasastra*.
12. Cannon, Garland, ed., *The Letters of Sir William Jones*, 2 vols (Oxford: Oxford University Press, 1970).
13. Ibid., Letter to Charles Chapman, pp. 683–84.

14. Chaudhuri, Sibdas, ed., *Proceedings of the Asiatic Society: Volume 1 1784–1800* (Calcutta: Asiatic Society, 1980).
15. See, for example, Stokes, Eric, *The English Utilitarians and India* (Delhi: Oxford University Press, 1989).
16. Lawson, Philip, *The East India Company: A History* (Essex: Longman Group UK Limited, 1993). p.137.
17. Morris, Henry, *The Life of Charles Grant Sometime Member of Parliament for Inverness-Shire and Director of the East India Company* (London: John Murray, 1904). p. 243.
18. Ibid., p. 244 Letter to James Mackintosh.
19. Ibid., p. 245 Letter to James Mackintosh.
20. Marshman, J, *Brief Memoir Relative to the Operations of the Serampore Missionaries* (London: Parbury, Allen & Co Leadenhall Street, 1827).
21. Serampore College was founded in Serampore, a Danish settlement in India. The settlement was eventually sold to the British.
22. Spear, Percival, *A History of India: From the sixteenth century to the twentieth century*, Reprinted (New Delhi: Penguin Books, 1990). p. 95.
23. Spear, Percival, 'Bentinck and Education', *Cambridge Historical Journal*, 6 (1938), 78–101.
24. An online copy of the Minute can be found here http://www.columbia.edu/itc/mealac/pritchett/00generallinks/macaulay/txt_minute_education_1835.html.
25. See, for example, Eric Stokes 'The English Utilitarians and India' and Percival Spear 'A History of India'.
26. See K Zachariah, 'History of the Hooghly College 1836–1936', in Origin and Development of an Institution of Higher Education: A History of the Hooghly Mohsin College, ed. by Basanta K. Samanta (Calcutta: Bangabani Printers, 1991). pp. 7–9.
27. The College was supported by the Government and was under the control of the Director of Public Instruction, Bengal. It was originally opened as a school by the General Committee of Public Instruction, Bengal. In 1841 it was converted into a college, when a Principal was appointed. The College building was erected partly by public subscription in the same year at a cost of Company's Rs 36,679.

CHAPTER 3

University of Calcutta: *Empire's Progeny*

Introduction

The University of Calcutta in the pre-independence era, manifested in many ways the ideas and attitudes of the colonial administration in relation to higher education in the country. It was also the scene where local intelligentsia developed its own strategies to counter what it came to dislike about the official policies on higher education. The University became a contested place where local Indians competed with the colonial Government to entrench their respective visions of higher education in the country.

The history of the University allows raising profound questions on the role of university in society—its purpose and function. The University was seen alternately as one of the central foundations that supported the imperial edifice and, at other times, as the primary engine for engendering nationalist feelings and destabilisation of the British Raj. It was the scene where imperial policies, idea and attitudes took concrete shape but it was also where local Indians negotiated with the ruling elite to try and implement their own vision of higher education in the country. Private colleges that were an integral part of the University system were seen by few as the main cause of educational malady that gripped the institution while others saw them as vehicles that spread liberal education in the provinces. The government first actively encouraged and then stringently opposed the spread of such colleges. In a particular sense, the University changed very little during this time. The way it taught and assessed students remained

S. Datta, *A History of the Indian University System*,
DOI 10.1057/978-1-137-53571-9_3

more or less the same during this time, yet the purpose and significance of the University within the society underwent major transformations. This duality of stasis and change can be explained only by invoking the broader sociocultural and political context under whose influence the University evolved. The colonial context, the Industrial Revolution, the uprising of 1857, the First and Second World Wars, the national movement and diarchy all affected the evolution of the university in varying degrees.

The University of Calcutta was one of the original three universities (the other two were University of Bombay and University of Madrasa) which constituted the university system in India at its inception in 1857. But in terms of its size, geographical reach and student numbers, the University of Calcutta dwarfed its siblings.

Calcutta being the capital of the British Raj for most part of the pre-independence era, it is not surprising that the University of Calcutta became the arena where the higher education policies of the government were implemented with most vigour, their impact assessed and evaluated, which in turn led to further reforms. This chapter will trace the evolution of the University of Calcutta from 1857 till the end of the British rule in India in 1947. The important changes in the higher education sector that came about after independence are dealt with in Chap. 6.

The aim is not to provide a comprehensive account of all the activities that the University undertook during this period; rather, the focus here is to identify and analyse the key shifts that took place over its colonial history. An account of the evolution of the University of Calcutta is an explanation of how the university changed its scope of activities and its purpose over time, what brought about these changes and how the changes affected the society at large. It is thus a study in institutional changes that occurred over the time period.

In order to account for changes in the evolution of University of Calcutta, the chapter will try to bring together three distinct but interrelated threads. First, it will identify the key Government policies that governed the university during the time period that is under consideration in the context of this chapter. A prime example of this is the Education Despatch of 1854 that laid down the blueprint of the university system in India and defined for a very considerable period of time the scope of activities which the universities could engage in. Formal policies include various government legislations and the University's own internal rules that governed the operations of the University. These were obviously numerous in number and the study will focus only on those which came to bear

significant impact on the evolution of the University. Second, the study will identify key individuals, who were, in large part, responsible for effecting large-scale changes in the scope and purpose of the university. Such individuals can be thought of as political and academic entrepreneurs who strove to change the system from within, motivated by a complex mix of interest and ideology. Foremost amongst them was Asutosh Mookerjee, an academic entrepreneur par excellence, who was instrumental in ushering in reforms that changed, to a certain extent, the nature of the University. Third, as the self-interest and belief system of the academic and political elites were central to institutional changes that were witnessed in the university they will be explored in depth. The political economy of the time shaped the interest of political and academic entrepreneurs and thus will form a key element of the analysis. The three different strands—the formal policies comprising of various government acts and policy documents, political and academic entrepreneurs whose actions significantly affected the workings of the university and the backdrop of interest and ideologies that affected this agency—are interwoven in the historical narrative that is presented below.

The chapter begins by picking up the thread from where it was left in the last chapter. After Macaulay's Minute was published in 1835, the stage was set for the introduction of anglicised higher education. The document that delivered the blueprint of the system that is to be set up was the Education Despatch of 1854 which led directly to the formation of the University of Calcutta in 1857. The importance of the document is underlined by the fact that the system it instituted in the country had such a lasting impact that its traces can be found in large measures in the present higher education system more than 150 years later.

The Blueprint: Education Despatch of 1854

Before the East India Company's charter was confirmed in 1853, a parliamentary enquiry was held on the condition of India where the issue of education of native Indians was considered. Key personalities who were associated with education in India, the likes of Alexander Duff, Charles Trevelyan, and J.C. Marshman, appeared as witnesses and gave their views on the development of higher education in the country. The enquiry formed the basis of the Education Despatch of the Court of Directors to the Governor-General of India that was to follow in 1854. The Education Despatch contained within it the blueprint of the education system that

was to be later established in India, including the university system which started its life in 1857.

The Despatch has been eulogised as the 'Magna Carta' of Indian higher education, both by European and Indian scholars and policymakers. If one reviews the multitude of policy documents and scholarly articles that have reflected on the origins of higher education in India and have referred to the Education Despatch in relation to it, the revolutionary nature of the document appears to be axiomatic. Moreover, on balance, scholars and policymakers seem to agree that the blueprint for the university system as specified within the Despatch has had a salutary effect on the development of higher education in the country. Both the radical nature of the blueprint and the beneficial effect that it brought about are, in general, taken as self-evident truths and the extant literature lacks a critical perspective.

The authorship of the Despatch has been the subject of quite a debate. Though as Charles Wood was the President of the Board of Control, the Despatch was formally forwarded by him to the Governor-General of India; yet it is doubtful whether he was the main architect of the document. Several key figures have been credited with being the motivating forces behind the document, including John Stuart Mill, Alexander Duff and Lord Dalhousie, but the answer remains in the realm of speculation.[1]

The Despatch undoubtedly had a profound effect on the university system in India in general and more specifically on the University of Calcutta.[2] But the impact of the Despatch also needs to be evaluated objectively rather than just assuming that its impact has been positive for the development of the University of Calcutta (other than the fact that it undoubtedly willed the institution into existence). The circumspection is justified as the university model in Britain from which the authors of the Despatch borrowed heavily to design the new system in India was itself the subject of strong critiques and even scorn from historians and scholars who were associated with the institution. The original model which is that of the University of London of the mid-nineteenth century has been critiqued as decidedly 'odd'[3] and as 'a body that was neither a university nor metropolitan but a mere government department established to conduct examinations'[4] in the context of higher education in Britain. Karl Pearson, an insider, having taught both in King's and UCL, was even more scathing in his assessment when he wrote:

> To term the body which examines at Burlington House a university is a perversion of language, to which no charter or Act of Parliament can give a real sanction.[5]

There were other more established university models in Britain at the time for the colonial administrators to choose from. Not only were there the old universities of Oxford and Cambridge, the British university system also included the Scottish universities, namely, Glasgow, St Andrews and Edinburgh. None of these universities followed the 'Examining University' model of the University of London, and they all held teaching to be the main function of the university. Why, amongst these varied choices, the 'odd' one was selected by the Board of Control and the Court of Directors as the template for the Indian university system is a question that has frankly not had the attention from historians that it deserves.

The Education Despatch had plenty of both rhetoric and actual recommendations that informed policymaking in the years to come. A reading of the Despatch immediately highlights the disconnection between the two where the lofty proclamations on moral duties of the Government to spread 'liberal education' amongst natives are not reflected in the specific policy recommendations that the document put forward. But from another perspective these two were interlinked as the hyperbole at the beginning of the Despatch masked the paucity of actual measures that could have promoted higher education more effectively in the country. That this endeavour of the authors of Despatch has been largely proven to be successful in the subsequent years can be gauged from the fact that there have been relatively few critiques of the original model of the university system both in the colonial period and in the years after independence.[6]

The Founding Model in Perspective

The Despatch is unambiguous on the university model that it wanted to replicate in India. It referred to an earlier recommendation on the university model by the Council of Education of British Government in India and remarked, 'The Council of Education…took the London University as their model; and we agree with them that the form, government and functions of that are the best adapted to the wants of India'.[7]

This in fact is the extent of justification the Despatch provides for using the University of London as a template for the university system in India. As the Despatch does not provide any rationale for adopting the model and there hasn't been any serious consideration of the issue by scholars thereafter, this necessitates an investigation of the model and of the question—whether it was indeed the 'best' one for India?

The 'oddness' of the Examining University model on which the University of London was based on has already been referred to. Negley

Harte, the historian who wrote an authoritative account of the university, commented, 'All universities are different, but some are more different than others. The University of London is the most different of them all.'[8]

The model that was implemented in India was based on the University of London as it was during the period between 1836 and 1900. It is important to note here that origin of the university went back further in time. In its earlier avatar during the period 1828 and 1836, which has been referred to as Mark I by Negley Harte, the form of the university was radically different from Mark II that followed from 1836 onwards till the end of the nineteenth century. The university underwent further changes in 1900 and the period thereafter can be referred to as Mark III.[9] Of the three phases, Mark II veered most decidedly away from the conventional notion of university—that of a unitary body which conducts teaching, research and examination of its students—and the reason why it did so has its roots in the historical development of higher education in London.

University of London Mark I was a major innovation in the English university system on many counts. First, it challenged the orthodoxy of old universities of Oxford and Cambridge by stipulating that its students need not have any particular religious affiliation as was necessary in the two old universities. The secular nature of the university was indeed a threat to the orthodoxies that were prevalent within the higher education system at the time in England and this directly affected the institution's fate in the next decade. Second, the university was a private initiative and was incorporated as a limited liability company and issued shares to raise money from the public. To say this was radical in the context of the time is an understatement. Third, the university was conceptualised on the models of the German and Scottish universities, as a unitary body which engage in teaching, research and examining students. Fourth, in terms of its curricula, the university was far more innovative than that of Oxford and Cambridge, teaching its students engineering and laboratory sciences, subjects that were introduced in the old universities only much later. There was a real effort to transfer knowledge to the industry and at to train students to be at the service of industrial Britain. This focus on developing university industry linkages was hitherto missing in the British higher education sector. The *Prospectus* of the new university boldly stated: 'The exclusion of so great a body of intelligent youth, designed for the most important occupations in society, from the highest means of liberal education, is a defect in our institutions which, if it were not become familiar by its long prevalence, would offend every reasonable mind.'[10]

One thing that the new institution lacked was official recognition of its university status. The university actively sought a charter throughout the period after its incorporation in 1828 till the end of its first phase in 1836 and lobbied the government energetically but there was fierce resistance both from the state and from the old guards of Oxford and Cambridge who felt threatened by the new upstart. The ostensible reason for opposing the new institution was its secular character, refusing to make specific religious affiliation a prerequisite for enrolling and graduating from the university. The religious establishment reacted by characterising the university as the 'godless institution of Gower Street'. But the religious orthodoxy also knew that the University of London was fulfilling a real educational need in industrial Britain and that they too had to respond to those needs. King's College was set up in 1831 with a scope of studies that was remarkably similar to the University of London Mark I, the key difference being that its students were required to be affiliated with the Anglican Church. Not surprisingly King's College received a charter from the government soon after its inception. As a result, in the early 1830s London had two universities—the University of London, whose university status was self-proclaimed though it was canvassing for a charter with the government, and King's College which had a charter but called itself a 'college'. The dogged pursuit by the University of London for a charter made it increasingly difficult to the government to deny it one especially in the context where King's with similar scope of studies was endowed with it. The government thus in 1836 reached a compromise by creating University of London Mark II, essentially an examination body which was set up to examine students from University London College, from King's College and from specified medical schools in London. University of London Mark I was rechristened as University College London and lost its 'university' status one which was albeit self-proclaimed.

The notable point is that the University of London Mark II was a compromise and an unhappy one as demonstrated in the frictions that dogged the new institution throughout this period between the Senate, the central examination body, and its affiliated colleges especially with University College London. Many in Britain held the view that University of London Mark II did not measure up to the ideals of a university. Thus comments such as a 'mere government department established to conduct examinations' and 'to term the body which examines at Burlington House a university is a perversion of language' abounded in its characterisation. The defects of the system became increasingly apparent which led to the

transformation of the institution into University of London Mark III in 1900 when it reverted to a more traditional form of university taking up teaching in a major way although retaining its federal structure.

The University of London Mark II model that was implemented in India and the present Indian university system continues to reflect the consequences of that colonial initiative. To reiterate, the model, in the context of British higher education, was an outlier and there were other established models that aligned much more closely with the conventional notion of a university. The major innovation in the British higher education was in fact brought about by University of London Mark I, a model that was based on the Scottish and German university system with strong emphasis on teaching, research and developing close links with the industry. In this sense, University of London Mark II was a retrogressive step that established a purely examination-based model hitherto unknown in the British context.

The crucial difference between the British and Indian context in relation to the model is this—while for students in Britain, University of London Mark II was *one* of many alternate choices of higher education, for students in India it became *the* choice. The much critiqued and sometimes ridiculed University of London Mark II model became the dominant paradigm that would set the boundaries of the university system and the *rules of the game* within it in India in the years to come.

Whilst analysing the performance of the University of Calcutta between the period 1858 and 1919, the *Report of Calcutta University Commission* compared the situation in Bengal with that in the UK and pointed out that while the

> students of United Kingdom are divided among eighteen universities, which vary widely in type; the…students of Bengal are all brought under control of a single course of study, read the same books, and undergo the same examinations. The University of Calcutta is, in respect of the number of its students, the largest university in the world...The University of Calcutta has to deal with 26,000 students scattered over an immense province wherein communications are very difficult.[11]

This lack of heterogeneity in higher education models in the country would directly affect the capacity of the society to modify and adapt the university system in the years to come including in the post-independence period.

The Education Despatch was clear about the strategy that it wanted the Government in India to pursue in relation to higher education. It envisaged a future where the government withdraws from the provision of higher education in the country leaving the matter of financing it entirely in the hands of the private enterprise. The Despatch justified the approach by arguing that it is the 'higher classes' that acquired such education and they 'are both able and willing in many cases to bear a considerable part at least of the cost of their education; and it is abundantly evident that, in some parts of India, no artificial stimulus is any longer required in order to create a demand for such an education'.[12]

By establishing a university system that did little more than examining students who were taught in affiliated colleges, the Despatch strove for a higher education sector that cost very little for the government to maintain. The reasons why the Government in British India ultimately deviated from the model laid out in the Despatch will be discussed in detail later in the chapter, but what is important to note is the anaemic attitude of the state towards funding of higher education that was explicitly expressed in the document, something which persisted in the years to come.

The issue that the Despatch lightly skipped around but which deserves greater inspection is that of the purpose of the university system in India beyond the articulated desire of 'conferring upon the natives of India those vast moral and material blessings which flow from general diffusion of useful knowledge and which India may, under Providence, derive from her connexion with England'.[13]

The Despatch hints at this when it states

> this knowledge will teach the natives of India the marvellous results of the employment of labour and capital, rouse them to emulate us in the development of the vast resources of their country, guide them in their efforts and gradually, but certainly, confer upon them all the advantages which accompany the healthy increase of wealth and commerce; and at the same time, secure to us a larger and more certain supply of many articles necessary for our manufactures and extensively consumed by all classes of our population, as well as an almost inexhaustible demand for the produce of British labour.[14]

The university thus was envisaged to play a key role in the colonial economy, and thus its success, suggested the Despatch, is of 'material interest' to England. More specifically, the university system was to produce a

labour force fit for the anglicised civil service and judicial system that by this time were entrenched within British India. The relationship between the civil service, judiciary and the university system would prove to be enduring in the years to come but this relation can be properly explained if one takes into account the mechanism of training civil servants that was already in place by 1854.

As discussed in Chap. 2, the locus of training British Civil Servants moved away from India to Britain with the truncation of the College at Fort William and the establishment of East India College (EIC) in 1806. The founding of the latter institution was in part a reaction by Directors of the Company and in particular of Charles Grant to prevent the threat of assimilation of British Civil Servants within the local culture, thus risking the loss of 'British identity'. But EIC was also established in part to protect the patronage system through which Directors were involved in choosing candidates for civil service in India. The declining mercantile role of the Company and the advent of the Crown in the affairs of the Company meant that this patronage system exercised through EIC became an object of critique particularly by those who were in favour of the Crown taking complete control of the governance of India. With the Crown officially taking charge of India in 1858, EIC was abolished and a system of competitive examination was instituted in London to select candidates for the civil service in India. But the selected candidates had to undergo further education in British universities, mainly Oxford and Cambridge, before being despatched to India to join the Imperial Civil Service. The civil service in India was thus a hierarchy consisting at the top of a few covenanted civil servants, who were almost exclusively European throughout the nineteenth century, who had long-term contracts and were paid handsomely and a large number of native un-covenanted civil servants at the bottom, who were paid meagrely. There was thence a division of labour between universities in Britain and India in relation to training of civil servants in India. The ones in Britain educated the top civil servants who wielded tremendous power being less of civil servants as we know of them today and more akin to powerful proconsuls.[15] The ones in India, the University of Calcutta being most prominent of them, examined and produced graduates who populated the un-covenanted civil service and other public services including the judiciary.

Historians have since pointed out how the old universities of Britain and in particular Oxford were vitalised and found a new role in society once the matter of training Indian civil servants were bestowed on them

after 1853.[16] The aura of Oxford and Cambridge of the present day has much to do with their education of civil servants destined for India and as a consequence having this powerful cohort as their alumni. Universities of India, on the other hand, had as their alumni civil servants who did not enjoy political power and who lacked the wherewithal to make effective changes for the benefit of their home institutions. Not only did the old universities in England gained new respectability as their graduates increasingly populated the Indian Civil Service, the attractiveness of the service also impacted other universities such as those in Scotland, whose graduates were markedly less successful in securing such jobs thus missing out on the remunerations and prestige associated with the them. Increasingly, there were calls to reform the curricula in these universities and to bring them in closer alignment with that of the old English universities so that their graduates stood a better chance of gaining employment in the Imperial Civil Service in India.[17] C.P. Snow[18] much later commented on the 'two cultures' that existed in Britain in mid-twentieth century—the high literary culture which dominated the British polity and the scientific culture that resided in industries and in specific departments of universities—and suggested that the two were often at loggerheads. The underutilisation of scientific principles to enhance the well-being of the society, Snow argued, has much to do with the scientific illiteracy of policy makers. The origins of 'two cultures' in England can be traced back to the nineteenth century with the establishment of University College and King's College in London and even later the 'civic universities' that fostered the scientific spirit in the country, while the old English universities which specialised in liberal studies propagated the literary culture amongst the political elites who populated both the Imperial Civil Service overseas and domestic polity.

It is also the case that the role of East India College and subsequently of universities of Britain made the university model that was implemented in India almost commonsensical to the policymakers. The utilitarian logic that so much dominated the political thought of the time would have seen no sense in replicating an Oxbridge or even a University of London Mark I model in India as the cream of the civil service has already been trained in Britain in such institutions. What was required is a mechanism to effectively screen the multitude of natives who were eager to join the un-covenanted civil service, and the University London Mark II model admirably served this instrumental purpose. Thus, it is only when the metropolis and the colony are seen as a unitary field and the different

models of the universities operating within it are considered that the particular niche that the new university system in India was designed to occupy becomes apparent.

Empty Shell (1857–1904)

The University of Calcutta faithfully followed the University of London Mark II model until 1908, doing little else other than examining students who were taught at affiliated colleges. Even the narrow range of activities that the Education Despatch foresaw for the university was not fully undertaken by the university. The Education Despatch underlined the importance of proper supervision of the affiliated colleges to maintain standards, yet the *Calcutta University Commission*, constituted in 1917 to investigate the state of affairs of the university and provide recommendations, found little evidence of this. Commenting on this dereliction of duties by the university in the maintenance of quality and standards of the affiliated colleges, the report stated:

> The power of granting or withholding affiliation ought to have implied the power and duty of exercising supervision over the staff and the equipment of the colleges. But no such functions were imposed upon the University until 1904. Each college once it was affiliated, was left to its own devices, and there was no guarantee that the degree of efficiency which had won for its original recognition was maintained or increased.[19]

Notwithstanding the poor quality of education, for reasons already referred to, the demand for university education continued to grow at a sustained pace. Of the 1589 students who obtained arts degrees in the University of Calcutta between 1857 and 1882, 526 had in 1882 entered public service, 581 the legal profession and 12 became doctors. The remaining 470 found employment as teachers in colleges and high schools.[20] Employment in government and judiciary had already by this time become the coveted prize for the middle class in Bengal and a university degree became the primary instrument for achieving it. This instrumental value of the degree in turn enhanced the social prestige of the degree holder, so much so, after few years, even candidates who failed in the examination proudly and publicly proclaimed their status as ‘BA fail’ under the presumption that appearing for the examination itself was a badge of merit.

While there was a constant high demand for a university degree, till 1882 there were constraints on the supply side. The impetus on the supply side came mainly from the mushrooming of affiliated colleges after the education reforms of 1882. On 3 February 1882, the Government of India appointed an Education Commission, with a view to enquiring into the working of the existing system of education in the country, including the state of higher education. The scope of the Commission was severely limited. The Education Despatch was still held sacrosanct by the government and the Commission was to find to what extent the education system has conformed or deviated from the blueprint laid out by the Despatch.[21] In relation to higher education, the government felt that the desire expressed in the Education Despatch, that of the state withdrawing from direct provisioning, as opposed to mere regulation of higher education, had not been fulfilled. Anxious that funding of higher education in the country was unnecessarily depleting the coffers of the government, it instructed the Commission to provide recommendations to redress this problem. The brief to the Commission made clear the position of the government:

> The Government is ready therefore to do all that it can to foster... a spirit of independence and self-help. It is willing to hand over any of its own colleges or schools in suitable cases, to bodies of Native gentlemen who will undertake to manage them satisfactorily as aided institutions; all that the Government will insist upon being that due provision is made for efficient management and extended usefulness.[22]

Such a development, the government hoped, would provide 'pecuniary relief' to its finances. What is striking in the brief provided to the Commission is the lack of any desire of the government to re-evaluate the education strategy as explicated in the Education Despatch. After all, almost thirty years have elapsed since the Despatch was written, and many changes had been witnessed in the university system in Britain including at the University of London, the founding model for universities in India. The brief did not require the Commission to have a rethink on the purpose and scope of the university system in India, it was only charged with the task of implementing the recommendations of Education Despatch even more stringently than it had been done till then. This apparent reluctance to engage in any intellectual debate about the purpose of higher education in India has much to do with its function in relation to the colonial

enterprise. The university system had been established, in part, to provide human capital for the lower levels of colonial bureaucracy and it was performing this role adequately by examining and screening the multitude that were hopeful of gaining government employment. From the perspective of the government the major flaw of the system was the financial dependence the sector had on it and this needed rectification. In this respect the reforms of 1882 were remarkably successful for it engendered local private initiatives in higher education, at least in the Bengal province, on a thitherto unprecedented scale. However, from the perspective of intellectual development of the university sector, the reforms were not favourable as it merely entrenched the flawed examination-oriented model and set the sector on a course from which it would find difficult to reverse from throughout its history. The reforms also brought about a host of unintended outcomes that affected future reforms of the university system and these have been discussed later in the chapter.

Following reforms of 1882, there emerged three classes of affiliated colleges. First, there were the colleges that were directly provisioned by the government (as opposed to grants-in-aid) as a kind of model higher educational institute. Presidency College was the flagship of these kinds of colleges. Second, there were the colleges in which the government divested its control to 'bodies of native gentlemen' or local authorities. The only college that was divested to local authorities was Midnapore College in 1887 with poor result. The college was poorly funded with the local authority contributing a meagre Rs 1000 per annum for its operation, and the college had to survive on student fees and grant-in-aid from the government.[23] Other colleges that were divested by the Government to native control fared relatively better. In 1887 Berhampur College was transferred to the Maharajah of Kasimbazar. It benefited from his generosity and grew into one of the largest colleges outside Calcutta drawing students from all parts of the Bengal province.[24]

The third class of colleges were the new ones that sprang into existence directly as a result of the 1882 reforms. The new colleges shared some common features amongst them. These were privately owned and managed mostly by native agencies. These colleges did not enjoy personal endowments from wealthy individuals but were mainly dependent on student fees for survival, although in some cases government grant-in-aid supplemented the revenues. The colleges grew out of previously established high schools often sharing the same building, staff and other infrastructure. Many were proprietary concerns often run by

the headmaster of the high school from which the college sprang from. The colleges shared a common purpose which was to prepare their students for the university examination. The flawed university model implemented at the top corrupted the education levels below it as well. The colleges and high schools became the training ground for university success. The colleges especially turned into, what were essentially, coaching centres where the contents of the examination syllabus were crammed into students. As university success depended on passing the examination, the curricula and purpose of the colleges and high schools came to be dictated by it. Even the middle schools came to be affected by the system. The period between 1882 and 1904 saw an extraordinary growth in English-language middle schools at the expense of vernacular language ones. This expansion was largely due to the fact that university examinations were conducted in English and students need to gain a measure of proficiency in the language before they attended high school and collegiate education. The university system thus in practice did not limit itself to affiliated colleges but also extended to encompass high schools. This also explains why a disproportionate percentage of students who attended high school and collegiate education appeared for university examinations. The Report of the Calcutta University Commission of 1917 noted this anomaly when it compared the case of Bengal with that of Britain:

> The populations of two countries are almost the same—about 45,000,000. By a curious coincidence the number of students preparing for university degree is also almost the same—about 26,000. But since in Bengal only about one in ten of the population can read and write; the proportion of the educated classes of Bengal who are taking full time university courses is almost ten times as great as in the United Kingdom.[25]

The high enrolment in tertiary education can be understood if one takes the university examination system, the affiliated colleges and the high schools as parts of the same system. Students entered high schools and colleges with the clear idea of eventually appearing for university examinations and essentially regarded them as intermediate stages that are necessary for attaining the university degree. In contrast, in Britain students often studied in various levels of education for the kind of education that was provided in them and not necessarily for the purpose of gaining a university degree after completing various intermediate stages.

The new genre of colleges was also striking for another reason. It became possible because of the emergence of these colleges to be taught in English language and European ideas and thoughts without the direct involvement of Europeans. As these private colleges employed local staff, it became possible for a student to pursue the anglicised curricula without ever having an Englishman as a teacher. One can only speculate on the psychological impact that this may have on the students, but it is undoubtedly a significant event when alien ideas start getting propagated on a mass scale by native agencies. One can also note the coincidence in the rise of national consciousness and the growth in higher education in Bengal, but again the impact that private colleges had on the former necessarily can only remain in the realm of speculation as it is beyond the scope of this book.

The university system in Bengal in the late nineteenth century was affected by several factors such as the Education Despatch, motivations of the government and the economic conditions of the time. The Education Despatch institutionalised an examination-oriented higher education system in the country, the pecuniary motives of the colonial government and the reforms of 1882 entrenched the model, and as the economy of the time provided few job opportunities, government employment even at the lower levels of the bureaucracy became highly sought after. As university degree became increasingly necessary to enter into public services, the demand for collegiate education skyrocketed. However, limited number of jobs in public services and high failure rates in university examinations meant that only a fraction of those who appeared in the examinations actually attained their goal. This coupled with general poverty meant that the students were not willing to pay high fees for the coaching they received in these colleges. This precipitated a vicious cycle—low fees led to poor infrastructure and staff quality which in turn led to poor teaching quality and consequently a higher failure rate in university examination which in turn put even greater downward pressure on fees which then affected further the teaching experience and the chain continued. The blame for the deteriorating quality of higher education in the late nineteenth century has often been placed on these private colleges,[26] but they were merely responding to perverse incentives that were in place; in the circumstances it would indeed be surprising if these colleges evolved into anything else other than the coaching institutes that they became.

The private colleges were the primary engine for the growth in graduate numbers between 1882 and 1902. In 1882, 3827 graduated from the

University of Calcutta and of those 2394 or around two-thirds were students who studied in government colleges. The total number in 1902 was 8150 of whom only 1937 or much less than one-fourth were students in government colleges. In other words, practically the whole of the increase was due to the non-government colleges. The new private colleges that sprang into existence during this period in Calcutta were Ripon (1884), Bangabasi (1887) and Central (1896). But the growth in the number of colleges was not restricted to the capital and spread to the mofussil regions as well. Burdwan College was established in 1882; Jagannath College, Dacca, in 1884; Victoria College, Jessore, in 1886; Uttarpara College, Howrah, in 1887; Cooch Behar College in 1888; Braja Mohan College, Barisal, in 1889; Krishnachandra College, Hetampur (in the district of Birbhum), in 1897; Edward College, Pabna, in 1898; Victoria College, Comilla, in 1899; and City College (branch of City College, Calcutta), Mymensingh, in 1901. Not only it was the case that local private initiatives spread anglicised higher education across Bengal it was also true that it was the first time when such education reached East Bengal, a region hitherto largely insulated from such influences.

While the private colleges came to bear the brunt of criticism in the report of the University Commission appointed in 1902 by George Nathaniel Curzon, the Viceroy of India, to review the state of the universities and also in the *Indian Educational Policy* drafted by him in 1904, in the intermediate period the experiment of using native agencies in expansion of higher education was hailed as a success. In 1887, in his convocation address at Calcutta University, the Vice Chancellor, W.W. Hunter, proclaimed that 'the career of the university has been wholly prosperous'.[27] In short, the reforms of 1882 achieved what it set out to do, which was the expansion of higher education in the province with little expenditure on the part of the government. The question arises then why these private colleges were singled out for criticism in the early years of twentieth century? As reforming these colleges became the primary focus of institutional changes that were witnessed at the beginning of the twentieth century, this question will be considered in some depth in the next section.

Winds of Change (1904–1923)

In January 1899 George Nathaniel Curzon was appointed Viceroy of India. As was the norm, the position also automatically made him the Chancellor of the University of Calcutta. But in contradistinction with

his predecessors who usually kept a low profile as Chancellors of Indian universities, Curzon took it upon himself to reform the university system. The impact of Curzon's reforms on the university system remains a subject of debate. Curzon himself was in no doubt that their influence on higher education in India will be far-reaching and positive. Others were less sanguine albeit with the benefit of hindsight. But it is important to understand why the need for reforms arose in the first place. It is difficult to glean this from official documents that relate to education issues in the country but once the policies are placed within the broader socio-economic context, the motivations that underpinned them become easier to discern.

Late nineteenth century saw the birth of Indian National Congress, the political party that would be, in times to come, the primary architect of India's road to independence. This coincided with a rise of nationalist feelings in the country particularly amongst the educated. The province where this new national consciousness was most acute was Bengal. Not entirely coincidental was the fact that Bengal was the province which produced the most number of graduates and a significant percentage of them failed to find employment that required their newly acquired skills and knowledge. Unemployed educated youths have been fountains of discontent across space and time, and this was the case in Bengal in the late nineteenth century. The proliferation of private college after the reforms of 1883 naturally led to exponential increase of university graduates. The liberal university curricula included a generous diet of ideas of John Locke, Edmund Burke and John Stuart Mill, and although the primary method of digestion, which was of memorising possible answers to pass examinations, was perhaps not ideal, it would be surprising if the graduates were not inculcated to varying degrees by these often revolutionary doctrines. Lack of jobs would also bring home with clarity the discriminatory policies which kept the higher echelons of government bureaucracy out of reach of ordinary graduates. As these effects took roots, the government realised some of the unintended consequences of the reforms of 1883 and sought to reign in the growth of private colleges which they increasingly regarded as hotbeds of seditious anti-state activities. Almost fifty years after Charles Wood expressed his fear that university graduates can be potential sources of unrest in the country 'if they become intelligent through education',[28] his prophecy appeared to have come true. Wood wrote to Dalhousie in 1854 that 'these highly educated natives are likely to be a very discontented class unless they are employed and we cannot find employment for

them all', and this seems an apt summary of the situation which prevailed at the time Curzon assumed Viceroyship of India in 1899.

At the start of the twentieth century, the relationship between the educated native population and the government was unmistakably different from what it had been for the major part of the nineteenth century. Early education ventures such as the Hindu College were characterised by a spirit of cooperation and bonhomie between the local intelligentsia and the ruling elite. The mood was distinctly different by the time Curzon became the Viceroy of India. Discontent against British rule had progressed beyond polite prayers and petitions, with nationalist leaders like Dadabhai Naoroji and Romesh Chander Dutt penning measured critiques that challenged the idea of a benevolent empire and pointing to the drain of financial wealth from the country resulting from specific policies. 'Macaulay's children' it seemed were no longer content to be mere 'translators' between the rulers and the masses but wanted to actively challenge the policies of the government. The time had yet not come when the legitimacy of the British rule in India itself will be contested, but these early nationalists pointed out with increased frequency the chasm between the rhetoric of a liberal and civilising empire that underpinned the justification of dominion and actual policies of the government that often had the effect of impoverishing the country. The government on its part saw the educated middle class as the main source of discontent against the empire and sought to reign in the agitations in various ways. Though the clampdown on private colleges and the partition of Bengal, both moves championed by Curzon, have been conventionally presented as two distinct initiatives, both had a common purpose and that is to limit the rise of the educated class in politics.

University Act of 1904

The University Act of 1904 was directly borne out of the recommendations of the University Commission of 1902 set up by Curzon soon after he became the Viceroy. But Curzon's effort in introducing changes to the university system virtually coincided with the start of his Viceroyship of India. In March 1899, he found out that the government of Bengal has failed to introduce William Lee-Warner's *Citizen of India* as a textbook in the university curricula.[29] The Senate alone held the power of prescribing textbooks that were taught in the affiliated colleges. Curzon felt that government should have more control on the workings of the university[30]

and initiated a chain of events that culminated in the University Act in 1904. Curzon appreciated the power of ideas and consequently the importance of controlling the curriculum of university studies. Thus, Burke's *Reflections of the French Revolution* was 'certainly dangerous food for Indian students'[31] while *Citizen of India* was considered an 'excellent manual'. In 1901, Curzon organised an education conference in Simla to discuss and debate the future of education in India. No Indian was invited and conference delegates were handpicked by Curzon comprising of Vice Chancellors of the Universities of Calcutta, Bombay and Madrasa; the Directors of public instruction in Bengal, Bombay, Madrasa, the North Western Provinces and the Punjab; the Inspector General of Education in the Central Provinces; the principal of the Deccan College at Poona; the reporter on economic products to the government of India; members of Curzon's council; and Curzon's secretary Risley.[32] As many as 45 resolutions were unanimously adopted at the conference, each drafted personally by Curzon himself. The main purpose of these resolutions was to strengthen government control over university education to be achieved through changes in rules relating to affiliation and recognition of private colleges and introduction of textbooks in the curricula.[33] The conference also extended its support to Curzon's decision to institute a Commission to recommend changes in the workings of the universities. The motivation of instituting the Commission was expressed in a letter written by Curzon to Hamilton:

> India is a country where you can do almost everything provided that you allow your critics and opponents to have their say. I shall, therefore, invite the fullest discussion on all the points to be mentioned by me... I think it very likely that in the case of universities for the reform of which we shall almost inevitably be compelled to resort to legislation, I shall have to appoint a small preliminary commission to go around and take evidence at Calcutta, Madrasa, and Bombay, and allow the instructed M.A.s and B.A.s who swarm at these capitals to have their say in advance.[34]

The antagonism between Curzon and the educated class in Bengal ran deep. Curzon deeply distrusted the 'Babus' of Bengal and freely expressed his distaste for them. He viewed them as little more than troublemakers for the government and made it one of his primary goals to reduce their influence in various spheres including the academia. A significant section of the educated class was equally suspicious of Curzon's motives

and challenged his educational policies at every possible opportunity. The University Commission was instituted in 1902 with this mutual dislike simmering in the background, and recommendations of the Commission flared it up considerably.

The Commission members were handpicked by Curzon. The Commission was to consist of permanent commissioners and local ones. The responsibility of local commissioners was to act as eyes and ears to the Commission and gather evidence in the ground. They were to interview local experts and seek their views on the proposed reforms. Initially Syed H. Bilgrami was the only Indian amongst the six permanent commissioners proposed by Curzon. This led to vociferous protest by local intelligentsia, not least because this was seen as 'ostracism of the Hindu element'.[35] Curzon relented later to include Gooroodas Banerjee, an ex-Vice Chancellor of the university, as one the permanent commissioners. Notably, it was Banerjee who raised the only note of dissent in the report of the Commission. Banerjee's note of dissent in fact reflected the general discontent of the local intelligentsia against the educational reforms of Curzon. What motivated Banerjee was the apprehension that the university system will be dominated by the government to a far greater degree than it was the case at the time if the recommendations were translated into practice.

The main bone of contention was the governance of the university. From the inception of the university system, the Senate was the supreme body of the university and the role of the Syndicate was not properly defined. The recommendations of the Commission were to change this situation—now it was explicitly specified that the Syndicate was to be the executive body of the university.[36] Moreover, the Syndicate was now conceived as autonomous of the senate in certain respects. The report suggested that 'it is undesirable that appointments made by the Syndicate, decisions in regard to affiliation and disaffiliation of colleges, and exemptions from examination rules should be reviewed in the Senate'.[37] As the Syndicate was to be a much smaller body 'not exceeding' 15, with the Director of Public Instruction as an ex-officio member, this gave rise to the fear of increased government control on the university and consequent loss of autonomy.

Banerjee's objections were not taken into account when the report of the University Commission was transformed into the University Act of 1904 which faithfully adhered to the original set of recommendations. However, the concerns expressed by Banerjee and others were to an

extent vindicated when almost fifteen years later the Sadler Commission summarised the impact of the Act as follows:

> Perhaps the main result of the Act was to make the control and supervision of the Government over University Policy more direct and effective than it had hitherto been. Not only was the Viceroy as Chancellor, empowered in overwhelming majority of the Senate (a possible 80 of the non-official members) his approval was made necessary for the election of remaining 20; and the Government of India retained the power conferred upon it by the Act of 1857, of cancelling any appointment. Moreover, the Vice-Chancellor, the Chief Executive Officer of the University, was to be appointed by the Government; all regulations of the University must be submitted to the Government for its approval; all affiliations and disaffiliations of College must be determined by it; all professors, readers and lecturers of the University must be approved by it; in short, almost every detail of University policy was made subject to its supervision.[38]

Both the report and the Act of 1904 commented on the need to introduce the teaching element into university functions thus expanding its role from merely an examination body. By itself this was not a radical suggestion as the Despatch of 1854 had within it suggestions of instituting professorships in universities and teaching of those subjects not covered by the affiliated colleges. However, this increased rhetoric on the need for transformation of universities into teaching bodies would later be skilfully used by Asutosh Mookerjee to push through his radical educational innovations. The immediate outcome of the University Act of 1904 was a halt in granting of affiliation by Calcutta University to private colleges. The declining trend of affiliation granted by the university in fact was simultaneous with Curzon's ascendancy to power. During the period between 1900 and 1902, only three private colleges were granted affiliation. In contrast, between 1897 and 1899, nine colleges were granted such affiliation.[39] After 1902 and till 1907, no new colleges were granted affiliation with the university. Notably, there was no movement to introduce teaching in the university for a considerable period after the implementation of the Act of 1904. This had to wait for the arrival of Asutosh Mookerjee onto the scene.

Asutosh Mookerjee became the Vice Chancellor of Calcutta University on 6 March 1906 and thus began one of the longest tenures of Vice Chancellorship in the history of the University. Mookerjee in fact acted as the Vice Chancellor in two separate time periods, the first from 1906

till 1914, the time in which he affected most of his educational innovations, and the second from 1921 to 1923, a brief stint which was significant as well but more for the reasons of its brevity rather than academic entrepreneurship that characterised the former epoch. In part Mookerjee's appointment was made to assuage the aggrieved feelings of the local intelligentsia against the University Act of 1904. The Home Secretary H.H. Risley suggested that apart from being 'an academic of great distinction', Mookerjee's appointment will 'undoubtedly be popular and would tend in some degree to discourage the idea that the sole purpose of the Universities Act was to tighten official control over the Universities'.[40] The ruffled feathers of the educated community in Bengal were further aggravated by the partition of Bengal in 1905 and this was another factor in favour of the appointment of Asutosh, who could be simultaneously considered as an establishment figure having been a high court judge and also as a representative of the local intelligentsia. That the move to appoint Mookerjee was strategic in part of the government does not take away from the fact that he had the right credentials for the post. Before opting for a career in law, Mookerjee had already made his mark in the academia as a mathematician and had produced several original papers in the field. He was involved in the governance of the University having been a member of the Senate and the Syndicate and also acted as a Local Commissioner in the University Commission of 1902.

Mookerjee's educational innovations were on three fronts. First, he made the first serious attempt to convert the university into a teaching body from a pure examination-oriented entity. Second, he created an environment in which it was possible for the staff to engage in original research, and third, as government funds were not forthcoming for the first two initiatives, he engaged on an unprecedented scale in fundraising activities for the university.

All the three enterprises were intertwined as Mookerjee believed teaching and research are intrinsically linked together and of course without adequate funding the two strands will not meet. In a nutshell, Mookerjee's was the first serious attempt in India to institutionalise the Humboldtian University model in which teaching and research are integral parts of higher learning.[41]

While past studies have acknowledged Mookerjee's contributions to higher education in India and in particular his efforts to bring postgraduate teaching and research under the ambit of university, they do not address the key question—why did the 'Humboldtian' model not gain

traction within the Indian university system notwithstanding his sterling efforts in this direction?

Mookerjee's ambition to convert the University of Calcutta into a genuine teaching and research-oriented institution is clear from his convocation addresses. In the very first one, held on 2 March 1907, he proclaimed:

> Under the new Regulation the College must be regarded as an integral part of the University and it is the first duty of the University to secure their efficiency. This marks a distinct stage in the widening of our conception of the functions of a University. We are no longer a purely examining body, prescribing courses of study, fixing standards, testing candidates and putting the seal of approval on them. A duty is imposed on us now to satisfy ourselves that the Institutions in which these candidates have been trained, are maintained in a state of efficiency, and are worthy of continued affiliation to the University.[42]

The regulation that he was referring to was the University Act of 1904 which was generally held as a retrogressive policy as it was expected to halt the growth of higher education in the country. Asutosh chose instead to interpret the conditions for colleges to be affiliated to the University as a means to improve quality of education in these institutions. He also highlighted that the Act allowed for appointment of professors to carry out postgraduate teaching. Indeed, Asutosh's interpretation of the new Act in relation to teaching and research was grander than anything espoused in the Act itself:

> These Regulations indicate that the University is no longer to be a merely examining body with power to grant Degrees; it is not even to be merely a federation of Colleges; it is to these and a great deal more. It is ultimately to be a centre for the cultivation and advancement of knowledge. This is unquestionably the true ideal of a University, and the realization of this stimulating ideal, though it may be attended with difficulties, is imperative and is by no means impracticable.

While other Indians saw the Act as a hindrance, Asutosh regarded the University Act of 1904 as an opportunity to ram through changes within the moribund system in order to invigorate it to its full potential. He was also for the first time holding the Government to account and exhorting it to match its rhetoric on higher education with concrete action:

> The University is legitimately entitled to claim that ample funds should be placed at its disposal, either by the Government or by wealthy aristocracy of these Provinces or by both, to enable it to discharge adequately in this matter.[43]

It is worth noting here that appointment of professors was always possible as this was allowed under the regulations mentioned in the Woods Despatch of 1854 and in this respect the Act was not revolutionary. It had always been the norm of the Government and University officials up to that time to espouse the high ideals of higher education and learning on policy papers but to do very little on the ground to put them into practice. Asutosh decided to use the rhetoric by accepting it at its face value and asked the Government to back it up by providing funding to the University.

Initially this strategy bore some fruits. Mookerjee was successful in establishing the Minto Professorship of Economics in 1908 and some grants were provided for the benefit of the University College of Law which was founded in 1909. Another grant of Rs 65,000 was made by the Government of India in 1912 for the creation of two more professorships, the Hardinge Chair of Higher Mathematics and the King George V Chair of Philosophy.[44]

Noticeable is the absence of state funding towards promotion of science and technology during this period. The Viceroys in India were also the Chancellors of the university. Typically educated either in Oxford or in Cambridge, these Chancellors had a very specific ideal of higher education which was based on the study of classics, history and philosophy. In Britain, new universities such as University College, London or the Red Brick universities of the north were at the forefront of science and technology education and Oxford and Cambridge were often regarded as reactionary institutions that were stuck in the ways of the past. For Lord Minto and Lord Hardinge, both graduates of Trinity College, Cambridge University, professorships in mathematics, economics and philosophy were eminently sensible ideas, but for Mookerjee they were not enough.

In 1912 Mookerjee secured a landmark endowment for the university from Taraknath Palit, a well-established lawyer in Calcutta. Palit donated land and money worth more than Rs 1.5 million.[45] This was equivalent to pound sterling 100,000 at the ongoing exchange rate.[46] In today's money the donation is worth around pound sterling 10 million. The donation was for 'the promotion and diffusion of scientific and technical education and

the cultivation and advancement of science, pure and applied, amongst his countrymen by and through indigenous agency'.[47]

More specifically, the deeds specified that two professorships—one in Physics and the other in Chemistry—are instituted in the university to carry out original research work. Moreover, provisions were made for outstanding graduates of the university to study overseas in the field of science and technology. Palit expected that the colonial government will also contribute to the advancement of research in the university by providing suitable lecture rooms, libraries, museums, laboratories, workshops and other facilities but the authorities were not interested and rejected such requests made by the University.

Mookerjee and Palit were both inspired by a form of nationalism that was broad in its outlook and forward-looking. They wanted to create conditions where it was possible for native Indians to gain equal status with the ruling elite at least in the domain of science and technology. But the colonial government was also aware of the rising national consciousness and looked at it with a sense of foreboding and hence its rejection of proposals which it thought can further fuel the fire of nationalism.

Substantial as they were, Palit's donations were by themselves not sufficient for Mookerjee to embark on his ambitious project. Inspired by Palit's example, Rashbehari Ghosh, another renowned Calcutta lawyer, donated Rs 1 million in August 1913. Ghosh also made two further donations in 1919 and 1921 amounting in total to Rs 1.4 million, making him the largest benefactor of Calcutta University till date.

Total donation provided by Palit and Ghosh amounted to Rs 2.5 million worth about £16.50 million in today's money. Armed with this resource, Mookerjee laid the foundation stone of University College of Science in March of 1914. The cost of erection of building was met from the reserve funds of the University. This was also the last year of his first phase of Vice Chancellorship of the University. He will return to this position for a brief period in 1921–1923.

In 1914 Mookerjee was optimistic about the prospects of research and postgraduate teaching in the University. In his last convocation address of the first era (1906–1914) he said:

> The sister Universities (in India) are eager to imitate and emulate what we have boldly initiated. I feel that a mighty news spirit has been aroused, a spirit that will not be quenched, and this conviction, indeed, is a deep comfort to me at the moment when I take leave from work dear to for so

> many weighty reasons….I thus bid farewell to the office not without anxiety for the future of my University, but yet with a great measure of inward contentment.[48]

The cautionary note that Mookerjee struck within the overall optimistic speech was much more accurate than his hope that the university system in India will soon become a genuine teaching and research-oriented institution. The mood was altogether darker when Mookerjee gave his Vice Chancellor Convocation Address in 1922. By this time, he was fighting for university autonomy and complaining bitterly about the lack of funding from the Government.

> This University will not be a manufactory of slaves. We want to think truly. We want to teach freedom. We shall inspire the rising generation with thoughts and ideas that are high and enobling. We shall not be a part of the Secretariat of the Government. What is the offer? Two and half lacs (*Rs 250,000*)! And you solemnly propose that we should barter away our independence for it. What will Bengal say? What will India say?...What will the posterity say? Will not future generations cry shame, that the Senate of the Calcutta University bartered away their freedom for two and half lacs Rupees? We will not take the money. We shall go from door to door all through Bengal. We shall rouse the public conscience of Bengal….I call upon you, as members of the Senate to stand up for the rights of your University. Forget the Government of Bengal. Forget the Government of India. Do your duty as Senators of this University, as true sons of your *Alma Mater*. …Freedom first, freedom second, freedom always—nothing else will satisfy me.[49]

Mookerjee's anguish stemmed from the absolute apathy of the Government to fund postgraduate studies in the University. By this time, the rhetoric of the higher ideals of the university that were often espoused by Government officials in earlier times has ceased altogether and the mood between the Government and the University has become openly adversarial. The Government accused the University of 'thoughtless expansion' of postgraduate teaching, while the University robustly denied all such charges. In August 1922, the Government of Bengal wrote to the University that the Government would grant Rs 250,000 subject to certain conditions. The eight conditions laid by the Government were designed to increased control of the state on the affairs of the University. This was an affront to Mookerjee and the other officials of the University on two counts.

First, the deficit faced by the University at this point in time was over Rs 500,000, and second, and more importantly, the conditions implied loss of autonomy enjoyed by the University till that point in time.

What brought about this change in attitude and circumstances over the span of eight years? Why did the optimism that characterised Mookerjee's first era (1906–1914) give way to the unmitigated pessimism of the second (1922–1923)?

The answer lies both in the general attitude of the Government in relation to the purpose of the university system in the country and in the political economy of the time. The British very deliberately instituted a university system in India which did not cost much to run being examination oriented as it was till the early years of the twentieth century. All the teaching was delegated to affiliated colleges which were mainly privately funded with some grant-in-aid from the Government. Moreover, the mainly Oxbridge-educated Viceroys of British India who also doubled up as Chancellors of the University often had a disdainful attitude towards it. The attitude is reflected in Lord Curzon's convocation address as the Chancellor of the University in 1899 when he compared the university to his alma mater University of Oxford:

> A residential and teaching University such as Oxford or Cambridge, with its venerable buildings, its historic associations, the crowded and healthy competition of its life, its youthful friendships, its virile influence upon character, its esprit de corps, cannot either in Britain or in any country be fairly compared with an examining and degree-giving University such as yours. They are alike in bearing the same name….But they are profoundly unlike in the influence that they exert upon pupil, and in the degree to which they effect, not so much his profession, as his character and life.[50]

Having thus disparaged many of the attendees of the Convocation who would have been the graduates of the University, he sought to defend why nothing should be done to change the status quo by suggesting that owing to the University 'there has been an upward trend in the honesty and integrity and capacity of the native officials in departments of Government'.[51]

The Chancellors and Vice Chancellors of the University in the pre-Mookerjee period were in a cosy consensus. They occasionally preached the high ideals of higher education but did little to change the status quo. Mookerjee was the first Vice Chancellor to challenge the Government to

fulfil its role and help the University achieve its true potential. The conflict of interest between the Vice Chancellors (whose primary motive had to be the betterment of the University) and Chancellors (representing the Government who wanted to run a bare bone university system) was always there but never became explicit until the arrival of Mookerjee into the scene. Faced with increasing demand for resources from the University, the rhetoric from the Government also changed and their attitude became openly adversarial.

The other big factor was the political economy of the time. The First World War and the Dyarchical government that was put in place after the War was over affected the university system in the country profoundly. The First World War hastened the process of local representation in the governance of the country. After the war was over, Dyarch or a dual form of government was put in place through the Government of India Act, 1919. The main objective of Dyarchy was 'the gradual development of self governing institutions with a view to responsible government as an integral part of the Empire'. This was to be achieved by devolving specified powers to the provincial government. While the Central Government remained in charge of 'reserved' subjects (Revenue, Law and Order and Finance), the provincial government that comprised a large contingent of Indian Ministers were to be responsible for 'transferred' subjects (local self-government, medical administration, public health and sanitation, education, public works, cooperative societies, excise, religious and charitable endowments and development of industries). Higher education thus became a subject of provincial government[52] through Dyarchy, a legacy that has endured till date.

While the idea behind Dyarchy was progressive, in practice it was a failure from the very beginning. The dual form of government was instituted at a time when the distrust between local Indians and the British was at its peak.

What must have been particularly disheartening to Mookerjee was the withdrawal of financial support by the Government of India for research and postgraduate teaching in the University precisely at the time when local Indians like Palit and Ghosh came forward to donate for these purposes.

After Mookerjee's Vice Chancellorship ended in 1923, donations from private individuals slowed down significantly. Never afterwards in the history of the University of Calcutta were there private donations comparable to that of Palit and Ghosh. The blueprint that Mookerjee had to convert

the University into a genuine teaching and research institution never took root. All too briefly during the period 1908–1923, it seemed that Calcutta University will be able to reinvent itself in the image of the 'Humboldtian University', but Government apathy towards postgraduate teaching and research meant that the project never really took off.

Stasis (1924–1947)

From the outside the period after Asutosh Mookerjee up until the time of independence can be described as an era of stagnation and status quo. This is not to say that the university did not clock up some remarkable achievements during the period. C.V. Raman who was the Palit Professor of Physics between 1917 and 1934 did groundbreaking work in the field of light scattering (Raman Effect), which earned him the Nobel Prize in Physics in 1930. Debendra Mohan Bose who succeeded Raman as the Palit Professor of Physics made important contributions in the identification of subatomic particles using photographic plates, although much of this research came after Bose resigned from his position in the University and became the Director of Bose Institute, an autonomous research centre in Calcutta. These achievements were directly as a result of Mookerjee's institutional innovations.

The University of Calcutta was also the incubator of several Centres of Excellence such as Indian Statistical Institute (ISI) and Saha Institute of Nuclear Physics.[53] The case of ISI has been discussed in detail in Chap. 5. Both institutes started their life inside the University of Calcutta, interestingly, both in the Physics Department. While their genesis was within the confines of the University, these institutes found their full expression only when they became autonomous entities outside the university boundaries. 'Autonomous Institutes' constitute a key feature of the Indian higher education system, and they have been analysed in Chap. 5 through the case of ISI and they have also been discussed in Chap. 6. What characterised both the institutes is their focus on research and this necessitated the severance of the umbilical cord that tied them to the University.

The challenges that the University of Calcutta faced in the post-independence period were very similar to the ones that were encountered by other provincial universities across the country, and these have been discussed in detail in Chap. 6. The case history of the University in the pre-independence era has served three main purposes. First, it has highlighted the founding model which we have seen as one that was completely

examination oriented. Second, it has illustrated the changes that were brought about by the academic entrepreneurship of Asutosh Mookerjee, inspired by the ideal of the Humboldtian University. Third, it has pointed to the reasons behind the lack of traction that these changes had within the University. By the end of the colonial era in 1947, Mookerjee's vision of the Humboldtian unity of teaching and research was largely unfulfilled. In Chap. 6, we shall see why the trend continued unabated even in the post-independence period.

Notes

1. See R.J Moore, 'The Composition of Wood's Education Despatch', The English Historical Review, 80 (1965), 70–85.
2. The University of Madrasa was on the wish list as the province at the time did not have the necessary network of colleges to warrant a university as per the authors of the Despatch, and while Bombay did have some colleges its coverage was not as extensive as was the case in Calcutta.
3. F.M.G Willson, *Out Minerva: The Men and Politicas of the University of London 1836–1858* (London & Atlantic Highlands, NJ: The Athlone Press, 1995) p. 3.
4. F.J.C Hearnshaw, Centenary History of King's College, London 1828–1928 (London, 1929).
5. Karl Pearson, The New University for London: A Guide to Its History and a Criticism of Its Defects (London: T Fisher Unwin, 1892).
6. A good example of how even in post-independent India the original model of the university system is accepted uncritically can be found in the book *Hundred Years of the University of Calcutta 1857–1956: A History of the University Issued in Commemoration of the Centenary Celebrations*, ed. by Pramathanath Banerjee, Niharranjan Ray and Pratulchandra Gupta (Calcutta: University of Calcutta, 1957), where the authors take it as axiomatic that the model was the best that University of Calcutta could have adopted at the time.
7. *Despatch from the Court of Directors of the East India Company to the Governor General of India in Council (No 49, Dated the 19th July 1854)* in M.E Sadler, *Report of Calcutta University Commission*, Appendices and Index (Calcutta, 1920).pp. 23–24.

8. Negley Harte, *The University of London 1836–1986: An Illustrated History* (London & Atlantic Highlands, NJ: The Athlone Press, 1986). p. 10.
9. Ibid., pp. 22–23.
10. Cited in Negley Harte, *The University of London 1836–1986: An Illustrated History* (London & Atlantic Highlands, NJ: The Athlone Press, 1986). p. 64.
11. M.E Sadler, *Report of Calcutta University Commission, 1917–19*, Analysis of Present Conditions (Calcutta: Government of India, 1919) p. 21.
12. *Despatch from the Court of Directors of the East India Company to the Governor General of India in Council (No 49, Dated the 19th July 1854)* in M.E Sadler, *Report of Calcutta University Commission*, Appendices and Index (Calcutta, 1920).p. 27.
13. Ibid., p. 18.
14. Ibid., p. 18.
15. See Tinker, Hugh. *Viceroy: Curzon to Mountbatten*. Oxford University Press, USA, 1997.
16. See Symonds, Richard, *Oxford and Empire-the Last Lost Cause?* (New York: St Martin's Press, 1986).
17. See Shairp, John Campbell, *The Wants of the Scottish Universities, and Some of the Remedies* (Edinburgh: Thomas Constable & Company, 1856). pp. 4–6.
18. Snow, C.P, 'The Rede Lecture: The Two Cultures', 1959.
19. Sadler, M.E, *Report of Calcutta University Commission, 1917–19*, Analysis of Present Conditions (Calcutta: Government of India, 1919). p. 46.
20. Ibid., p. 49.
21. Hunter, W W., *Report of the Indian Education Commission* (Calcutta: Government of India, 1883). pp. 1–2.
22. Ibid., p. 3.
23. Sadler, M.E, *Report of Calcutta University Commission, 1917–19*, Analysis of Present Conditions (Calcutta: Government of India, 1919). p. 60.
24. Sadler, M.E, *Report of Calcutta University Commission, 1917–19*, Analysis of Present Conditions (Calcutta: Government of India, 1919). p. 60.
25. Ibid., pp. 9–10.

26. The Calcutta University Commission of 1917 suggested that the private colleges were the reason why standards suffered. See pp. 53–56.
27. W W. Hunter, 'Address to the Convocation of the Calcutta University Delivered by the Hon'ble W.W Hunter, Vice Chancellor of the University' (Printed by the Superintendent of Government Printing, India, 1887). p. 2.
28. Cited in D.P. Sengupta, 'Sir Asutosh Mookerjee – Educationist, Leader and Institution-builder', *Current Science*, 78 (2000), 1566–1573. p. 1568.
29. Ghosh, Suresh Chandra, 'The Genesis of Curzon's University reform: 1899–1905', *Minerva*, 26 (1988), 463–492.
30. Curzon to Hamilton, 23 March, 1899, Letter 12, *Curzon Papers,* Reel 1.
31. Curzon to Maclean, 14 February, 1900, Letter 44, Curzon Papers, Reel 8.
32. Ghosh, Suresh Chandra, 'The Genesis of Curzon's University reform: 1899–1905', *Minerva*, 26 (1988), 463–492.
33. Ibid.
34. Curzon to Hamilton, 28 August, 1901. Letter 59, *Curzon Papers,* Reel 2.
35. Banerjea, *S. N., A Nation in Making* (Calcutta, 1925), p. 162.
36. *Report of the Indian Universities Commission 1902* (Simla: Government Central Printing Office, 1902).
37. Ibid.
38. M.E Sadler, *Report of Calcutta University Commission, 1917–19*, Analysis of Present Conditions (Calcutta: Government of India, 1919).
39. Pramathanath Banerjee, *Hundred Years of the University of Calcutta* (Calcutta: University of Calcutta, 1957). Supplement, pp. 1–12.
40. Cited in D.P. Sengupta, 'Sir Asutosh Mookerjee – Educationist, Leader and Institution-builder', Current Science, 78 (2000), 1566–1573. p. 1569.
41. In early nineteenth century Wilhelm von Humboldt laid down the blueprint of the 'research university' in Germany advocating the integration of teaching and research and emphasising the pre-eminence of scientific curiosity (as opposed to market needs) and freedom of research. The Humboldtian model has been discussed in detail in the first chapter.

42. University of Calcutta: Convocation Addresses Vol IV 1906–1914. 1914. The University of Calcutta. pp. 1067–1068.
43. Ibid., p. 1079.
44. Ibid.
45. Cited in Lourdusamy, J., 2004. Science and National Consciousness in Bengal 1870–1930. Orient Longman Private Limited, New Delhi.
46. In 1912, 1 pound sterling was equivalent to Rs 15.
47. Cited in Ghosh, S.C, 'Calcutta University and Science', Indian Journal of History and Science, 29 (1994), 49–61.
48. Banerjee, Pramathanath, Niharranjan Ray, and Pratulchandra Gupta, eds. 1957. Hundred Years of the University of Calcutta 1857–1956: A History of the University Issued in Commemoration of the Centenary Celebrations. Calcutta: University of Calcutta. pp. 189–190.
49. Ibid., italics added.
50. *University of Calcutta: Convocation Addresses Vol III 1899–1906.* 1914. Calcutta: The University of Calcutta. p. 843.
51. *University of Calcutta: Convocation Addresses Vol III 1899–1906.* 1914. Calcutta: The University of Calcutta. p. 845.
52. While education became a transferred subject for the Provincial Government through the Act of 1919, Benaras Hindu University and Aligarh Muslim University continued to be under the control of the Central Government. Calcutta University was to remain under the control of the Central Government for a period of 5 years before its control was transferred to Bengal province.
53. See Jahnavi Phalkey, 'Not Only Smashing Atoms: Meghnad Saha and Nuclear Physics in Calcutta, 1938–48', in *Science and Modern India: An Institutional History c 1784–1947*, ed. by Uma Dasgupta (Delhi: Pearson Longman, 2011), pp. 1057–94.

CHAPTER 4

Indian Institute of Science: *A Paradigm Shift*

Indian Institute of Science (IISc) is the premier research institution in modern India.[1] The history of the Institute serves as a paradigmatic case for this book for several reasons. Its birth was a result of a unique partnership between the ruling British government and native Indians to promote higher education in the country. The deep dissatisfaction felt by a particular section of the local population with the state of higher education in the country manifested itself in this endeavour. The institute also represents the first serious attempt to carry out original research work in the Indian higher education sector. Today IISc is often ranked as India's premier research institute by various bodies that specialise in ranking of HEIs across the world. But the success that IISc has enjoyed since its inception also masks the un-fulfilment of the original vision of its main sponsor, Jamsetji Tata. The project of reforming the examination-oriented university system which motivated Tata to endow IISc with income from his properties was not successful in the ultimate analysis. Tata's plan for establishing a world-class 'University of Research' in India did not bear fruit as originally envisaged. The truncation of the vision was a direct outcome of the battle between the two partners in the project—the colonial Government and the native industrialist. The chapter focuses on this tussle as it illuminates the paucity of vision on the part of the colonial Government in matters relating to higher education and science and technology in the country.

S. Datta, *A History of the Indian University System*,
DOI 10.1057/978-1-137-53571-9_4

Much of the chapter is devoted to the pre-independence period, in particular to the epoch between 1898 and 1909 as it was during that time the scope of the institute was debated, contested and determined. As so often the case with institutions within the higher education system in India, the structure of IISc was fundamentally affected by the ideological, socio-economic and political forces that were in operation during the pre-independence era.

A Paradigm Shift

The desire to conduct original research in India by Indians preceded the establishment of IISc. There had already been important innovations in science education and research led by local intelligentsia, primary amongst them being the establishment of Indian Association for Cultivation of Science (IACS) founded by Mahendra Lal Sircar in 1876. IACS fostered many scientists throughout its history; most notable amongst them perhaps is C.V. Raman who won the Nobel Prize in Physics for the work that he, in part, carried out while working at the institute. Asutosh Mookerjee in Calcutta University spearheaded postgraduate teaching and research after he became the Vice Chancellor in 1906.

Where IISc significantly differed from these earlier initiatives was in its focus on scientific research that was conducted not for its own sake but rather to develop solutions for specific problems encountered in the local society. If one uses the familiar distinction for classification of research in terms of 'basic' and 'applied', the focus of IISc was primarily on the latter from the moment the project was conceptualised by Jamsetji Tata.

The distinctiveness of the IISc project was however not only in its scope but also in the way the scheme was brought to fruition by a partnership forged between local Indians and the government. As is the case with other higher education projects of the time, an explanation of the genesis of IISc needs to take into account not only the various ideologies and interests that were at play but also the silent backdrop of the political economy in which the ideas took concrete shape. It is not a mere coincidence that the rise in the need of applied scientific research in the country was coterminous with the industrialisation of the Indian economy in general and more specifically with the emergence of indigenous industrialists. Nationalism, Swadeshi[2] and indigenous higher education initiatives in the pre-independence era were intrinsically linked. Indeed, the main protagonists of these three distinct but interrelated movements were often the same people.

The IISc case also stands out for another reason. It illustrates the gulf that existed between the rhetoric on higher education propagated by the high officials of the imperial Government and actual policies that shaped the sector. Nothing illustrates this better than the exchanges between Lord Curzon and the Tata family on the matter of establishing a research-oriented teaching university in India.

The Formative Years (1896–1908)

The birth of IISc was fractious and protracted and this is discussed in detail later in this chapter. But the impetus for its genesis was threefold. First, the deficiencies of the prevalent examination-oriented university system were becoming all too apparent by the late nineteenth century. If one reads the convocation speeches of Vice Chancellors of universities of Calcutta and Bombay between 1860 and 1890 which were often severely self-critical of the entrenched examination-oriented system that they led, the question that can legitimately arise is why an initiative like IISc took so long to take roots. The disquiet arose both within and outside the university system. The University Act of 1857 which led to the formation of the universities of Calcutta, Madrasa and Bombay was criticised as a system which was 'based on cramming' calculated to produce 'intellectual machines and not intellectual man'.[3]

Second, as these problems became clear, developing solutions to them became a form of intellectual nationalism for native education innovators such as Jamsetji Tata, Mahendra Lal Sircar and Rabindranath Tagore.[4] All of them expressed deep dissatisfaction with the state of university education and took concrete steps to redress the situation. Indeed, the refusal to accept the status quo that was pregnant with the idea that native Indians are destined to be passive recipients of Western education is the defining hallmark of these educational innovators.

Third, by the late nineteenth century, the Industrial Revolution had started making inroads into the Indian economy notwithstanding the fact that it was also during this time the classical colonial economy also took roots where the colony became primarily an exporter of commodities and importer of manufactured goods from the metropolis.[5] Gradual industrialisation of the economy offered opportunities to the native mercantile community, some of whom successfully transformed themselves from merchants to industrialists. Foremost amongst this crop of entrepreneurs was Jamsetji N. Tata whose business interests covered diverse fields as

steel, cotton textile and hydroelectric power. The industrialisation of the economy engendered the need of applied scientific research and no other class was in a position to better appreciate this than the indigenous industrialists who could use such knowledge to improve their lot. Of course this does not mean that all of them actually understood the potential of application of scientific knowledge in betterment of their industry, but the pioneer amongst them undoubtedly did. It was not a mere coincidence that J.N. Tata was at the forefront of two pioneering activities—ushering in an age of industrialisation in the country and encouraging scientific research which can be used for the purpose of the industry. There was no doubt in his mind that both projects are intertwined.

An Indian University of Research: 1898–1909

Behind the birth of IISc were the tireless efforts of two Indians—Sir Jamsetji Nusserwanji Tata and Burjorji Padshah. The birth of IISc is essentially a story of the vision, effort and struggle of these two individuals. Jamsetji Tata was frustrated with the lack of meaningful interaction between the industry and the higher education system. A much travelled man, he observed the application of science in industry in countries such as America, Germany and Japan and became acutely aware of the absence of such initiatives in his home nation. Being of the enterprising sort who would do something to change an unsatisfactory situation rather than just complain about it, Tata set about systematically to redress the problem. The focus on postgraduate studies and research was there right from the outset:

> What advances a nation or community is not so much to prop up its weakest and the most helpless members, as to lift the best and most gifted so as to make them the greatest service to the country. I prefer this constructive philosophy which seeks to educate and develop the faculties of the best of our young men.[6]

As a first step he asked his associate Burjorji Padshah to go on a fact-gathering mission around the world and visit reputed higher education institutions to gather intelligence that would inform the establishment of a new university in India. Padshah visited institutions in England, Germany, France, Belgium, Switzerland and the USA over 18 months between 1896 and 1898 and produced an outline of the proposed institute.[7] Padshah

suggested that the new institute would be a teaching institution (contra-distinct to the prevalent examination-oriented university system) focusing on postgraduate studies that would be research based. Padshah was fully aware that this constituted a paradigm shift in the higher education system in India, so much so that the demand for such an education is not yet articulated within the masses, and made the distinction between 'demand' and 'need' to bolster his argument:

> …a demand implies the perception of a need; the need might be present without the perception or demand—and in all modern businesses, the entrepreneurs generally and in education, the great masters, in particular, excel most not when they supply a demand or a felt need but rather when they lead the demand, by presenting a materialized embodiment, they stimulate the conscious perception of a hitherto inarticulate need. To diffuse such a perception with regard to post-graduate education will be one of the noblest functions of a new…university, for that will amount to elevating our intellectual stands through out India.[8]

From the beginning Tata envisaged the institute to be national in character (and not be limited to a particular province), and hence he felt that participation of the government to be essential for the success of the project. For this reason, he insisted that the Tata name does not feature in the name of the proposed institute. In fact, the very first name to be proposed for the university was 'The Imperial University of India'. The plan was to involve the imperial government right at the inception of the institute. Building collaborative enterprises came naturally to Tata. Belonging to the Parsee community in India, he straddled the usually disparate spheres of native Indians and the ruling elite effortlessly.[9] Tata backed up the plan by pledging Rs 30 lakhs worth of his properties that generated an annual income of Rs 1.25 lakhs.[10]

Conflict Between the Tata Family and Lord Curzon

Lord George Nathaniel Curzon, the new Viceroy of India, arrived in Bombay on 30 December 1898. Tata and Padshah along with other members of the Provisional Committee who were entrusted with the task of establishing the new university met the new Viceroy the very next day when they presented to him the plan for a new postgraduate teaching

and research university. Right from the outset Curzon expressed his reservations on the project. He expressed several doubts on the viability of the new institute, in particular whether there would be enough students in the country who will take up postgraduate research and whether there would be employment opportunities for the graduates of the proposed university. Given that these doubts were expressed a mere one day after his arrival to the country, it would suggest that the new Viceroy had preconceived notions about India, Indians and the higher education system prevalent within the country. Curzon indeed had big plans for the university system in India which, as has been discussed in Chap. 3, were essentially about extending state control over university affairs. Curzon felt that colleges that were affiliated with universities were hotbeds for developing nationalism amongst students and thus needed to be tightly monitored and controlled. Tata's idea of a postgraduate teaching and research university did not coincide with Curzon's vision of a tightly regulated university system which exerted a light burden on government purses (as it would continue to be examination oriented) whilst at the same time exercising a strict supervision of the curriculum that the students were exposed to in the colleges and greater control on the affairs of the affiliated colleges.

Tata and Padshah did everything to convince Curzon of the suitability of the project. The Provisional Committee undertook a survey of 76 educational experts in January 1899 asking for their comments and criticisms of the proposed university. The response was overwhelmingly in favour of establishing such a university.[11] Armed with the evidence, the Provisional Committee pressed the Government to give its sanction to the new university. Feeling the pressure of public opinion which was increasingly coming around to the view that the Government was the main impediment to the formation of the university, Curzon invited Tata to the first of the Simla Conferences on education in October 1899 to discuss the proposal. The focus of the Government representatives at the Conference was on the scope of the scheme which they wanted to be much narrower than what was proposed. While the original scheme encompassed both physical and social sciences befitting with the vision of establishing a genuine university, the government had reservations conferring such a status to it from the very beginning. At the Conference, Government representatives impressed on Tata that the physical and medical sciences would have preference over any branch of social sciences. They also were decidedly in favour of conferring onto the scheme the title of 'institute' rather than

'university', but a final decision on this was deferred to a later date as Tata had expressed his preference for the latter over the former. The location of the project was also provisionally confirmed to be Bangalore by the Conference attendees.

Although the Government gave tentative approval to the project after the conference, a decision was made in favour of a detailed study on the scheme by an expert. The Provisional Committee entrusted William Ramsay to carry out the work. Ramsay certainly had the right credentials. A reputed chemist, who received Nobel Prize in 1904 for his discovery of noble gases, he was by 1899 already a pioneer in his field.

Though appointed by the Provisional Committee, Ramsay focused on the initial objections raised by Curzon. On the question of whether there will be enough students taking up postgraduate research-based studies at the proposed university, he felt that with scholarships it would be possible to get around 80–100 students enrolled annually. On the issue of employment opportunities for the graduates, he was also positive, suggesting that new science-based enterprises can be created by professors which can gainfully employ the students as they graduate.

The Ramsay report did not satisfy either the Provisional Committee or Curzon though for different reasons. For the Provisional Committee, one aspect of the report made it particularly unpalatable. Ramsay strongly argued for the title of 'institute' instead of 'university' preferred by Tata and Padshah. Ramsay's rationale was twofold. First, it would not be possible for the new institute to conduct research in 'all branches of knowledge'.[12] Second, and more tellingly, Ramsay favoured the title of 'institute' because it will avoid confusion over the nature of the university system in India. To Ramsay having a research-based university in the midst of an examination-dominated university system will throw up questions that cannot be easily answered by the Government. But this was of course the precise reason why Tata conceived of the project—to change the status quo of the university system in India.

Curzon's dissatisfaction stemmed from two points in the Ramsay report. He was not convinced on the idea of professors setting up industries, and hence the issue of the employment of graduates was still an outstanding issue in his mind. Also Ramsay's estimate for annual expenditure for the institute exceeded by nearly Rs 1 lakh from that of the annual income from Tata properties (pledged to the institute). The Provisional Committee was already pressing the Government for grant-in-aid and Curzon thought that it will be incumbent on the state to make up the deficit which he felt

was too high. Ramsay wrote directly to Curzon and tried to assuage his apprehensions but with no effect.[13]

Both parties agreed to seek another opinion on the matter and this time the enquiry was headed by Orme Masson, Professor of Chemistry and Vice Chancellor of the University of Melbourne, and Lieutenant Colonel J. Clibborn, Director of the Thomason College of Engineering at Roorkee. Their report did not help the Tata cause. Perhaps motivated by Ramsay's recommendation of the title of 'institute', Masson and Clibborn proposed a significant reduction of the scope of the project limiting it to three schools—Chemistry, Experimental Physics and Biology, with each having a professor and an assistant. Not surprisingly, they agreed with Ramsay about the title of 'institute' and suggested that it be named as 'Indian Institute of Science'. However, due to the reduced scope of the institute, their estimate of the annual expenditure of the institute was only Rs 25,000 more than the expected annual income from the Tata endowment.[14]

Though Tata and Padshah were disappointed with the truncation of the scope of the project, they nevertheless wanted to get on with it as they were concerned about the delay that had already taken place. However, the Government continued to drag its feet citing Curzon's own university reform plans which were evolving at the time as a justification for it.

Padshah, who had been a constant thorn in Curzon's side, frequently questioning the motives of the Government behind the delay in sanctioning the project, again protested. He felt that the delay was due to the reluctance of the Government to provide financial assistance to the project and wrote a telling letter to H.H. Risley, the Home Secretary, articulating his vision for higher education in the country:

> Higher education of equal efficiency ought to cost far more in India than in Europe; for in India professors and apparatus and books have to be imported…to do Higher Education on the cheap in India where cost is heavier, can only mean the sacrifice of efficiency. Higher Education can in no part of the world be self-supporting. It is not in Oxford or Cambridge nor Dublin where fees range from 1/5 to 1/3 of the whole expenditure; it is not in the provincial colleges of England and Wales or in the Scotch and Royal Irish Universities supported largely by Treasury grants, Municipal rates and county council contributions. It is not in France or Germany or Switzerland or Holland or Belgium or Scandinavia where to make large state subventions to Higher Education is a maxim of political wisdom; it is not in the US—the land where the expenditure on education equals that of all

> the Continental States of Europe put together—the land of millionaires and millionaire universities...and the States separately give aid which cannot be precisely totalled up. In India, millionaires do not abound; the Government apart from its reverence as ruler is the owner of the 'largest landed estate in the world…of collieries'…or irrigation works and railways whose value is to be accounted by hundreds of crores, of immense public works, of the salt monopoly and so forth.
>
> Therefore, the Government of India and its revenues have a triple duty toward research. As a ruler among rulers, it has to support this department of education, so essential for the progress and well-being of the people as a whole, and yet so costly in acquirement and so uncertain in reward to the individual that it cannot be left to any agency that is not supported by the state. As an employer of skilled special talent, it has the duty of a gigantic association of Captains of Industry. As an employer of specialists in Education, in Surveys, in Industry, in Pure and Applied Science, the state has to see to it that its business does not become unduly costly and the extension of its business a financial impossibility for want of a ready local supply of such talent.
>
> Finally, the Government of India has to discharge that duty to Higher Education which in England and America has been voluntarily assumed by large land-owners and merchant princes; for…the Government of India is not merely a ruler but an employer of labour and owner of the instruments of production and transport—land and water and railway and fuel.[15]

Such a stringent criticism of the attitude of the Government put Curzon on the defensive, so much so that he felt compelled to defend his stance in his budget speech before the Legislative Council on March 1903:

> I have seen all sorts of assertions that it has languished for want of sympathy in official quarters. There is not an atom of truth in this insinuation, and when the history is published, as it shortly will be, no further misapprehension need arise. On the contrary, I hope that the Scheme may then move rapidly towards realisation.[16]

Later in the month, Risley confirmed that the Government is willing to contribute towards one-third of the annual expenditure of the institute subject to a maximum of Rs 75,000 and also a one-off Rs 1 lakh towards the initial capital expenditure.

This however did not clear the path for the establishment of the institute as the Government raised doubts on the income that will be accrued from the Tata endowment. It wasted valuable time in establishing that

the income from the endowment was indeed to the extent that Tata had promised, which it eventually confirmed on March 1904, but unfortunately Tata died in Germany two months later.

The conflict between the Tata family and Padshah on the one side and Curzon and the British Government on the other continued unabated after Tata's death. Whilst Tata's sons, Dorab and Ratan Tata, quickly affirmed their continued support to the project, Curzon started expressing fresh doubts on it. In a strident tone he wrote to the Tata sons:

> Since the scheme is your father's and nobody else's and since its successful accomplishment depends, in the opinion of your committee, upon the provision of a sum greater than the Government of India have ever felt to be necessary, why do not the representatives of the late Mr Tata themselves make up the alleged deficiency instead of perpetually appealing to the Government of India, and the Mysore Government to come to the rescue?[17]

The claim that the scheme was Tata's own and nobody else's was inaccurate as Curzon was well aware of the wide support that the project engendered, and it justifiably riled Dorab Tata who eloquently outlined his father's vision in his reply to Curzon:

> Your Lordship talks of the scheme as my 'father's and nobody else's'. I am afraid it is this impression that has probably stood in the way of the scheme being successfully launched. From the very beginning my father's views have been to make of this scheme a National Institute for the advancement of the moral and material progress of India in trying to raise her, if possible, to the same level, scientifically and intellectually as the rest of the world. He held that this was an object which should appeal as such to the Government of India as to the people of India at large. He never meant that the Institute should in any way be considered a private one and from the beginning set his face against having it called the Tata Institute or University, though Mr Candy and other Members of the Committee often suggested it. His contribution he meant to be only a starting fund or nucleus around which large and small sums should gather and grow till an Institute worthy of India and her past greatness and advancement in all branches of knowledge should be formed.[18]

Matters dragged on till February 1905 when the Government confirmed additional grant for the institute and the Provisional Committee focused on finding a Director for the new institute. Curzon left India in November 1905 when the search was still ongoing. His conflicts with

the Tata family and his reluctance to give wholehearted support to the institute is a good illustration of how the colonial ideology related to the subject of educating the native populace, particularly when it came to higher education. It also underlined the gulf that existed between the rhetoric and the practice.

Curzon's skirmishes with Tata happened against a backdrop of a growing sense of nationalism in Indians, particularly amongst the educated class, which the Government was keen to stamp out. The earlier mood of genuine cooperation between the native educated class and the Government which characterised higher education initiatives like that of the Hindu College in the early years of the nineteenth century had long disappeared. The educated were now seen as progenitors of nationalist feelings amongst the masses. The changing attitude perfectly manifested itself in the second Delhi Durbar in 1903 that Curzon was instrumental in organising. The pomp and pageantry, the elevation of puppet Indian kings (Maharajas), were a throwback to the Mughal Empire. Gone were the progressive ideals espoused by Macaulay, replaced by reactionary recreation of British 'Empress' and 'Emperor' of India. Curzon's university reforms were motivated primarily by the desire to have greater control over the curriculum which he thought was in part responsible for the rise of nationalism. The approach of the Government on higher education up till the moment Tata came up with his scheme was to engage in high-sounding rhetoric on higher education while in practice encouraging an examination oriented system that cost very little to run and which produced labour in enough numbers to run the lower echelons of the government bureaucracy. Tata's proposal shattered this comfortable situation. He held up a mirror to the face of the Government and asked them to practise what they had preached till then.

A Postgraduate Institute of Science

Curzon's departure and commitment from the Government on increased aid helped to get things moving along, but other obstacles sprang up not least in the form of the Institute's first Director Morris W. Travers, who was the Professor of Chemistry at University College before he took up his new position in Indian Institute of Science. A protracted battle ensued between him and Tata family who were mainly represented by Padshah in these interactions. One of the main contentions was the scope of the Institute. Inspired by Tata's original vision, his son and Padshah still

aspired that the institute should be more like a university encompassing both natural and social sciences rather than being only a 'technical' institute. When Padshah suggested that anthropology be included as a discipline for research and teaching as soon as additional funds become available, Travers clamped down on the suggestion:

> I hear that you have been writing to India asking for money for 'anthropology', and suggesting that the excess on the income from the property should be applied to this purpose. I told you when I was in London that I did not think that we should strike out in this direction for some time, and I am now convinced that it would be a grave mistake.[19]

The continuous truncation of the scope of the scheme that started with Curzon in 1899 thus continued under Travers. His reluctance to expand the scope of the Institute came to foreground again when Dorab Tata expressed his desire to endow a School for Tropical Medicine.

> You know that at the time my father conceived the first idea of the Research Institute at Lord Reay's insistence his intention was to make it specially an Institute where medical research would be the main feature. Lord Curzon's attitude and Sir William Ramsay's report somewhat diverted the original aim, but it has always been before me. Realising that the present scope of the Institute is not wide enough to cope with the idea of a School of Research in Tropical Medicine, which I am anxious to see established in India, I propose to set aside funds or properties which will bring in something like £5000 a year and devote a part of it towards the establishment of such a school and the rest to one or two objects for the benefit of India which also I have long had in my mind.[20]

Travers flatly rejected the offer citing lack of facilities for the proposed school, prompting Dorab Tata to vent his frustration:

> It took my father ten years to get the Government of Lord Curzon even to accept the donation he offered and then only because after his death I threatened to withdraw the offer and devote it so some other national purpose. Now I offer a sum equivalent to it and I find similar difficulties lie about its acceptance. I suppose I shall have to wait for ten years. At any rate, this time I shall take care that the money is spent exactly as I wish it spent or not at all. I do not think that anything will be gained by carrying on this correspondence further.[21]

Travers retired in 1914 shortly after the Institute became fully operational in 1912. His reflection on his experience as the Director of IISc also sums up the incredible shrinkage of the original vision of Jamsetji Tata:

> The first Director on arriving in India in 1906 found himself faced with the fact that Mr Padshah, who was backed by the Tata brothers, was not interested in science, and technology but was determined to have chairs of archaeology, history and economics of a political character, established at the expense of scientific subjects. This led to an eight-year struggle. In the end, the Director won the battle, but was forced to resign his appointment. But Mr Padshah also disappeared from the scene and the policy which the Director had put forth had endured.

The victory that Travers claimed he won was in reality a death knell for the idea of the 'University of Research' which had the potential to revolutionise the university system in India. The reformist agenda was slowly but surely chipped at by Curzon, Ramsay, Clibborn and Travers. Whilst the emaciated Institute became a pioneer in many respects within the Indian higher education sector, the biggest sufferer was perhaps the conventional university system whose oxygen of reforms was gradually turned off.

A Research Institute of Eminence: IISc in the Post-Independence Era

Since it began its teaching and research activities in 1911–1912, IISc has evolved into an institute that has constantly excelled in research scholarship in the context of the Indian higher education system, but it remains more of a 'technological institute' rather than a full-fledged university despite incorporating many social science departments and schools within its ambit over the years. This was noted as early as 1948 by the Egerton Committee which noted similarities between IISc and MIT in the USA.[22]

The focus of IISc on practical applications of science which started right from its inception would have pleased its founder, Jamsetji Tata, who wanted closer interaction between the industry and the academia. In the early years the mechanism of extracting oil from sandalwood was perfected through research conducted in the institute. Research was carried out also in the manufacture of soap from vegetable oils and in the industrial method of preparing table salt. Other notable examples of

applied research included methods for the production of lead pencils and providing technical advice on developing durable dyes to the local textile industry.

The emphasis on applied research shifted somewhat after C.V. Raman became the Director of the Institute in 1933. Raman was the blue-eyed boy of Indian science having won the Nobel Prize in Physics in 1930. Basic research and in particular theoretical physics became much more important with Raman's appointment perhaps not unsurprisingly given his background and research interests. Raman's tenure was also marked with conflicts with the Council, the supreme governing body of the Institute. These arose primarily for two reasons. First, whilst Raman's credentials as a scientist were never in dispute, there were deficiencies in his ability as an administrator. His general lack of tact and his penchant for making appointments without due regard to the process laid down for such purpose raised the back of the Council against Raman. Second, the shifting of focus from applied to basic research and in particular to mathematical physics was a cause of concern for the Council. The Irving Committee Report (the Quinquennial Reviewing Committee presided over by James Irvine) was quite scathing in its evaluation of the Institute under the directorship of Raman:

> It appears to be well established that applied research does not receive any sympathetic support from the Director and that on several occasions such work has been discouraged and disparaged by him. Under these conditions applied research cannot possibly flourish.[23]

The report highlighted the fact that 'physics is in the process of becoming a dominant factor and the department of chemistry which is extremely understaffed is in consequence of losing ground'.[24]

The Council took heed of the Committee's conclusion that 'the relations between the Director and the staff are acutely strained and unless firm action is taken at once the future of the Institute may be exceedingly precarious' and duly asked Raman to resign from the post of directorship of the Institute. Raman resigned from his position in July 1937 though he retained his professorial appointment in the physics department.

After a short stint by the Acting Director, B. Venkatesachar (1937–1939), J.C. Ghosh became the Director in August 1939, a position he held until 1947. With Ghosh at the helm, the focus of the Institute changed yet again. The prevailing wisdom amongst Indian policymakers

who were preparing to take over the reins of the country from the British was that Indian economy needed large-scale industrialisation to reduce poverty and unemployment that were rife. This industrialisation however was to be spearheaded by the state and not by private capitalists. For the budding indigenous policymakers in India, Soviet Union was the model to aspire for. Centralised economic planning became the solution to the economic ills that the country suffered. The ideology of centralised planning and its impact on the Indian higher education system have been discussed in both Chaps. 5 and 6. Suffice to say here that IISc under Ghosh's stewardship was also caught up in its fever. Engineering as a subject discipline came into focus due to its central role in industrial development. Much of the reforms Ghosh initiated in the Institute was related to the institutionalisation of the subject as part of its educational programme. The Institute soon started offering courses on mechanical, electrical, communication and aeronautical engineering. Ghosh later went on to become the Director of the first of IITs (Indian Institutes of Technology)[25] and became a member of the Planning Commission in 1954.[26]

Even the Economics and Social Sciences section of the Institute which was established in 1947 had its roots in the planning paradigm that would dominate economic policymaking in the decades to come. The Bureau of Industrial and Statistical Information, its antecedent, was set up in 1945 to collect essential data for basic and heavy industries from the technical and scientific journals that the Institute had access to. The enterprise of statistical data collection, sampling and analysis had come into prominence with the rise of the Indian Statistical Institute (its case history is discussed in Chap. 5), and the Bureau was part of this broader trend.

The national importance of the Institute was further emphasised in 1958 when it was granted the status of 'Deemed University' which empowered it to grant its own degrees and also made it eligible to receive direct funding from the Central Government.

The Institute has grown over the years both numerically in terms of students and faculty and in its scope of taught programmes. Yet, the underlying technical nature of the Institute persists. Despite its important contributions to higher learning in India, it would be quite uncontroversial to state that Jamsetji Tata's vision of a University of Research has not yet materialised. The initial scoping down of the vision had much to do with the utilitarian calculations of the colonial Government which did not see value in investing in research and development in India. The university system in India was designed to produce graduates on the cheap and any

model that veered away from that enterprise did not gain favour from the state. The case history of IISc brings this fact starkly to the foreground. Post independence the Institute was impacted by the centralised planning dogma that dominated policymaking in India up until the early 1980s. There was an effort to remake IISc in the image of the IITs, which are engineering institutes set up in independent India, with the explicit purpose of producing engineering graduates that would run the basic and heavy industries under the public sector.[27] Given that India still lacks a genuine 'Research University' model, there is a need to reclaim that original founding vision of Jamsetji Tata.

Notes

1. Nature Publishing Index Asia-Pacific, May 2015.
2. Swadeshi movement in India which can be dated back to the 1850s essentially involved boycotting British goods for consumption and revival of domestic products and production processes.
3. Criticism of the university system by Kissori Chand Mitter cited in Hundred Years of the University of Calcutta 1857–1956: A History of the University Issued in Commemoration of the Centenary *Celebrations*, edited by Pramathanath Banerjee, Niharranjan Ray and Pratulchandra Gupta (Calcutta: University of Calcutta, 1957), pp. 68–69.
4. The Nobel Laureate in literature, Rabindranath Tagore established Visva-Bharati in 1921, an institute of higher learning which later became a Central University. The vision of Tagore was to break free of the anglicised university system and establish an 'Eastern University' with distinct ideas and ethos.
5. See T. Roy, 'Economic History and Modern India: Redefining the Link', *Journal of Economic Perspectives*, 16.3 (2002), 109–30.
6. West Coast Spectator, 9 February 1899; quoted in Harris, Jamsetji Nusserwanji Tata, p. 123.
7. 'An Institute of Scientific Research for India' B J Padshah Bombay, 1898.
8. BJ. Padshah, 'Indian University Education: The Need for a Post-Graduate School', *Times of India*, 6 October 1898, p. 5, col. 5, Typed Copy, Council Section, IISc.
9. An example of Tata's ability to navigate the turbulent waters of late nineteenth-century British India, where nascent nationalism was

often at conflict with imperial interests, was in the naming of his two textile mills—the first was a nod to the imperial rulers, the Empress Mill, while the second was Swadeshi Mill, an acknowledgement of the growing nationalist feelings amongst native Indians.

10. Sebaly, Kim. P, 'The Tatas and University Reform in India, 1898–1914', History of Education, 14 (1985), 117–36, p. 120.
11. Archives and Publications Cell-Indian Institute of Science (IISc), Bengaluru, India, *Papers Relating to the History of the Institute*, 'The opinions or officials and resident gentlemen in India on the scheme for a research university to be founded by Mr J. N. Tata', 2–78.
12. W. Ramsay, *The Indian University of Research Report* (Bombay, 1901), 2–27, in NAI, Home, Education, 36–46, (July, 1901) Ramsay's report, which was printed by the Tatas, is also to be found along with his 'Indian notes', in The Library, University College, London, Ramsay Papers.
13. Letter of W. Ramsay to Lord Curzon dated 11.06.1903 available at Archives and Publications Cell-Indian Institute of Science (IISc), Bengaluru, India.
14. Professor Orme Masson and Lt.-Col J. Clibborn. The proposed Indian Institute of Science, Report. 5 December, 1901
15. NAI, Home Department, Education, Proceedings, 5–7 (May, 1903), 'B. J. Padshah to H. H. Risley' (17 March 1903).
16. T. Raleigh (ed.) *Lord Curzon* in *India: Speeches* (2 vols., London, 1906), I, 123.
17. NAI, Home Department Education-A, Proceedings, 94–106 (February, 1905), 'Curzon to D.J. Tata' (12 July 1904).
18. Ibid., 'D. J. Tata to Curzon' (13 July 1904).
19. UCL-RP, 86 (1906), 'M. W. Travers to B. J. Padshah' (23 December 1906).
20. M. W. Travers. Unpublished 'Autobiography', Part III (India) Chapter VII, 5. Travers quotes several letters he received from the Tatas and Padshah. This 'Autobiography' is the unedited version which is owned by Travers's son, R.M.W. Travers, Western Michigan University, Kalamazoo, Michigan. A copy has recently been deposited in the Library of University College, London.
21. Ibid., 8–9.

22. Egerton Committee Report, p. 10 cited in Ramanathan, Malathi, and B.V. Subbarayappa, 'Indian Institute of Science: Its Origin and Growth, 1909–47', in Science and Modern India: An Institutional History, C. 1784–1947 (Delhi: Pearson Longman, 2011), pp. 871–925.
23. Cited in 'Working of the Indian Institute of Science: Irvine Committee's Report', *The Times of India* (Bangalore, 18 July 1936).
24. Ibid.
25. IITs are the premier engineering institutes in India. Their origins have been discussed in detail in Chap. 6.
26. The Planning Commission was the central body entrusted with the task of developing Five Year Plans. Chapter 6 analyses the impact of centralised planning on higher education in the country.
27. The case of IITs has been discussed in detail in Chap. 6.

CHAPTER 5

Indian Statistical Institute: *Autonomous and Important*

The case history of the Indian Statistical Institute (ISI) is illustrative of several dynamics that are at play within the Indian higher education system. First, it was an Indian initiative in the colonial era that was not imitative of any pre-existing model. Before Mahalanobis and ISI, statistics did not exist as a separate academic discipline in the country. ISI not only initiated the teaching and research of statistics in India, it also put India on the global map of excellence for this discipline. Second, ISI illustrates the difficulty of creating 'Centres of Excellence' within the conventional university system. ISI started its life as the Statistical Laboratory in the University of Calcutta, yet achieved its eminence only after it was spun off from the parent. This datum is treated as one without any relevance in existing accounts of the history of the Institute, yet it becomes pregnant with significance when one is specifically investigating the causal events that have led to the specific nature of the present university system—what it does and perhaps more importantly what it does not. Third, the history of the Institute also explains, in part, the emergence of 'autonomous' institutes that reside outside of the mainstream university system but those that have degree-granting powers. Autonomous institutes in India (couple of other institutes of this nature have been discussed in the next chapter) are a complex genre to comprehend. Generally, they are more in the nature of technical institutes that have been deliberately kept outside of the mainstream university system by policymakers for a variety of reasons. Autonomous institutes are also typically the loci of the Centres of

S. Datta, *A History of the Indian University System*,
DOI 10.1057/978-1-137-53571-9_5

Excellence in India ranking higher up in various league tables compared to mainstream universities in research and reputation.

Yet the institution of 'autonomous institutes' raises profound questions about the nature of the Indian university system. What purpose does it serve in the larger scheme? Is it better to have such Centres of Excellence within the university system rather than outside of it? Does it represent a solution to a problem or is it a symptom of a malady? Such questions have not really been addressed in the extant literature yet they are at the heart of this book. ISI being a prominent example of this genre hence serves as a paradigmatic case to explore them.

The chapter is divided into two main sections. First, the evolutionary trajectory of the Institute is divided into three distinct phases: Genesis (1920–1930), Birth and Adolescence (1931–1948) and Golden Age (1949–1964). The narrative ends in the year 1964 as it is felt that the Institute had attained maturity by this time and thereafter; although the Institute continued to expand quantitatively, its scope of activities remained more or less the same or even diminished in certain respects. Second, the issue of the autonomy of ISI is explored in detail focusing in particular on the events leading up to the ISI Act of 1959 which cemented its status as an 'Institute of National Importance'. The underpinnings of the excellence that ISI achieved in research and of the deep linkages that it forged with external stakeholders are discussed in this concluding section.

Genesis (1920–1930)

ISI started its life in the Physics Department of Calcutta University, where its funder Prasanta Chandra Mahalanobis taught for over thirty-three years. Mahalanobis was a physicist by training. Having completed his undergraduate degree in physics from Presidency College (affiliated with Calcutta University) in 1912, he obtained his Tripos[1] in Mathematics and Physics from Cambridge University in 1915, after which he joined Presidency College, first as a temporary Assistant Professor (1915–1922) and later (1922–1948) as a member of the Indian Education Service with the rank of a full Professor.

Mahalanobis was interested in statistics right from the beginning of his career in Presidency College starting with a statistical analysis of Calcutta University examination results in 1916.[2] In the 1920s, a Statistical Laboratory was formed by Mahalanobis based in the Physics Department for the simple reason that he himself was located there.

The Laboratory that was undoubtedly little more than a one-man show throughout the 1920s gradually grew in stature concurrently with that of its main protagonist. Mahalanobis's claim to fame as a statistician started with his celebrated paper 'Anthropological observations on the Anglo Indians of Calcutta: Part 1' published in 1922 where by using anthropometric data that were collated by Nelson Annandale, Director of Zoological Survey of India, he proclaimed that Anglo Indians are homogenous enough to be considered a distinct group or tribe. The paper was innovative in terms of ushering statistical analysis in Indian anthropology studies, and in recognition of his contributions, Mahalanobis was elected the President of the Anthropological Section of the Indian Science Congress in 1925.[3]

Interestingly, in Part 2 of the paper which was published with some considerable delay in 1931, Mahalanobis appears to row back on his claims on the homogeneity of Anglo Indians of Calcutta. Based on the head length data, he found 'Anglo-Indian variability in Head Length as judged by the actual value of the Standard Deviation is definitely and significantly greater than the variability of the other groups'.

The conflicting results were perhaps inevitable as Mahalanobis was dealing with fluid categories such as race and tribes, but they may also have risen due to the sharpening of his statistical competencies over the intervening period (1922–1931). Pondering on the issue of divergence between different samples, Mahalanobis came up with his D^2 measure which later came to be known eponymously as the Mahalanobis Distance, perhaps his most significant contribution to statistical studies.

Birth and Adolescence (1931–1948)

ISI started its life under its own name in December 1931 (transitioning from 'Statistical Laboratory' which was part of Calcutta University; although as Mahalanobis was the main actor in both of them, activities of the two remained indistinguishable for many subsequent years) as a Society for higher learning and was formally registered under the Societies Registration Act in April 1932. One of the important innovations that Mahalanobis facilitated shortly after setting up of the Institute was the publication of the first statistical journal from India titled *Sankhya, the Indian Journal of Statistics* in 1933 which over time has been acknowledged internationally as a journal of repute.

Whilst the initial plan was to focus on research in statistics,[4] the ISI started receiving requests for training people in statistical methods right from the inception, mainly because no other university or institute in the country had the capability to deliver this. Mahalanobis himself explained how this started:

> Besides theoretical research on the design of experiments, the programme included giving advice to persons working in government departments and scientific institutions. In the course of dealing with such enquiries, three agricultural officers asked for permission to receive some training……With much hesitation we accepted them in July 1932…The Government of India sanctioned an annual grant of Rs 5,000 from April, 1935 for research and advanced studies which made it possible to expand the training programme to some extent....[5]

He went on to chart the growth of the training and teaching aspects of the Institute:

> Between July 1932 and 1939 more than 150 officers from government departments, universities and scientific institutions came to the Institute for individual training and studies. As the demand was increasing steadily it was decided to start in 1939 an organized professional course for one year which was thrown open to persons who had already taken their master's degree.
>
> Another expansion of the training programme took place a little later, on the initiative of the Institute, with the opening of postgraduate classes leading to the M.A and MSc degrees in statistics in the Calcutta University in 1941.[6]

The varied work the Institute was carrying out was already clear by mid-1940s as evident from this quote from the *Nature* journal of 15 December 1945:

> The Institute, as it has now developed has many facets: on the educational side equally as a training ground for computers and routine statisticians, and as a centre of post-graduate research in the most far reaching branches of the mathematical theory of statistics and experimental design ; as a professional institute and learned society bringing together all schools of thought in Indian Statistics ; as an agency employed by departments of Government and advisory bodies, in the essential work of collecting, scrutinising and digesting the facts upon which administrative decisions must depend.[7]

During this period, ISI also honed its expertise in the sample survey method, which underpinned its various interactions with the Government also in the post-independence period. The newly established Indian Central Jute Committee initiated an exploratory sample survey of the jute crop in 1937 under the technical guidance of Mahalanobis.[8] It was the beginning of a long-running battle of ideas between two competing methods of collecting data by the Government—complete enumeration and sample survey, the latter being the late entrant into the field. After the fieldwork for the jute crop survey was completed, serious differences of opinion arose between some Government officials and ISI in relation to the statistical analysis that was required to be carried out to interpret the raw data. Owing to the sharp differences of opinion, there was also a danger of sampling being abandoned altogether by the Government. At this point in time, strong advocacy of the survey method and of ISI by the pioneer of the discipline of statistics—R.A. Fisher—saved the day. In a memorandum submitted to the Government in 1938, Fisher wrote:

> In sociology and in the economic aspects of agriculture, the most obvious lines of progress now suggested in the development of the sampling method. This method is capable, at very trifling expense, of ascertaining, with more than the necessary precision, such facts as the actual yield in a district, or province, of any chosen agricultural crop…An adequate sampling technique is equally feasible and equally necessary in economic and sociological enquiry. This should, I believe, be developed at the Statistical Institute which already has several such studies to its credit. The immediate danger here is the undertaking of such surveys by persons having little acquaintance with modern statistical methods, or with the economic planning of such enquiries. Gross incompetence here is not at all out of the question.[9]

Fisher did not hold back in his praise of the new institute:

> In regard to the future of statistical studies in India, at present it would seem that everything depends of the future of the Statistical Institute…. I should regard the Institute as the training ground for candidates for future appointments. For this purpose, it should in the meanwhile be freely used as a centre where special problems can be studied, especially in agriculture, public health, and sampling surveys for economic and sociological purposes.[10]

Fisher's advocacy helped the Institute to consolidate its position, particularly in relation to the task of securing Government contracts. From 1938 the scale of the statistical work carried on behalf of the Government increased year on year which led to the rapid development of the Institute. The statistical staff increased in strength from 51 in 1938–1939 to about 140 in 1941–1942, the last year of the five-year jute survey project. The total budget of the Institute, which was less than Rs 4000 in 1932–1933, increased to nearly Rs 150,000 in 1941–1942.[11]

The Golden Age (1949–1964)

Whilst in the pre-independence era ISI undoubtedly carried out some important research work, the step change came in 1949–1950 when it was entrusted with the responsibility of carrying out the National Sample Survey work on behalf of the Government of India. The year before it saw its annual grant being increased to Rs 5 lakhs, which was gratefully received given the financial hardships the Institute had to face before:

> The uncertainty and the slenderness of its resources however have always been a stumbling block in the path of its all-round development and it is gratifying to note that after protracted negotiations with the Government of India, a stage has been reached which may be expected to lead it towards greater security and freedom from financial embarrassments.[12]

Within a short span of time, ISI achieved a level of national prominence which may appear bewildering at the first instance. By 1964, ISI was carrying out the National Sample Surveys, was in charge of setting up a network of statistical institutions for data collation and analysis at a national level, was the main institution in charge of preparing the Five Year Plans, was extensively involved in 'Perspective Planning' of the Government of India, achieved the status of being an 'institution of national importance' and was bestowed with degree-granting powers.

This phenomenal rise of course had much to do with the individual brilliance of Mahalanobis, but on its own his personal genius cannot account for the extraordinary growth that ISI enjoyed between the period 1948 and 1964. The growth in the stature of the Institute had much to do with the triumvirate of Jawaharlal Nehru, C.D. Deshmukh and Pitambar Pant. These three championed the cause of Mahalanobis and of the ISI through the labyrinth of Indian politics and policymaking.

Of the three, Nehru was undoubtedly the most influential, being holder of the highest political office in independent India. It was not a mere coincidence that the rise of ISI to national prominence occurred during the time period in which Nehru was the Prime Minister of the country. The ever-burgeoning sphere of ISI activities in the period between 1948 and 1964 was engendered to a large extent by the patronage of the most influential political leader of Modern India.

Nehru and Mahalanobis were acquainted before independence. Nehru was close to Rabindranath Tagore and had visited him at Shantiniketan twice between 1921 and 1934. Mahalanobis, Tagore's confidante, framed the constitution of Visva-Bharati in 1921 and from 1921 to 1932 was the general secretary of Visva-Bharati. The two were bound to have come in contact with each other. Nehru was also interested in centralised economic planning. He became the Chairman of the National Planning Committee of the Congress Party in 1938 partly in deference to the wishes of Tagore who wanted modernisers at the helm of the party and saw Nehru as one.[13]

Planning and statistics go together hand in hand, and this fact did not escape Nehru who in 1946 sent Pitambar Pant, his close associate, to train in statistical methods at ISI. In 1949, Nehru appointed a National Income Committee with Mahalanobis as Chairman to 'report on the national income and related estimates, to suggest measures for improving the quality of the available data and for the collection of further essential statistics and to recommend ways and means of promoting research in the field of national income'.[14]

The National Committee found that large gaps exist in terms of statistical information that is required for proper centralised planning of the economy and Nehru agreed to set up a National Sample Survey to fill these gaps. This is how the First National Sample Survey Report recounts the chain of events:

> On 18 December 1949, the Prime Minister desired that a sample survey should be organized covering the whole country to collect essential information. An abstract scheme for organizing a National Sample Survey (NSS) was immediately prepared by Professor Mahalanobis and was handed over on 25 December 1949 to Shri C. D. Deshmukh on whose advice it was approved in principle by the Government of India in January 1950. A little later, on 10 March 1950, the National Income Committee recommended the use of sampling methods to fill the gaps in information required for national income estimation.[15]

The institution of National Sample Survey (NSS) established in 1949 itself was quite unusual given the context of the time, and the fact that the task was entrusted to an academic non-governmental body was even more extraordinary.

Statistical methods and sample surveys were still in their infancies in the 1940s. The United Nations Statistical Commission was set up only in 1947 with the Sub-commission on statistical sampling established concurrently. The first publication of the Sub-commission 'The Preparation of Sampling Survey Reports' where detailed guidelines were provided to member countries was published only in 1950.[16] Mahalanobis incidentally was the Chairman of the Sub-commission.

In terms of statistical analysis and survey methods, Mahalanobis and his institute ISI were at the cutting edge of science in the 1940s. That the Government adopted the statistical sampling method for a national level survey that was meant to be a key input for Five Year Plans was revolutionary by itself. This kind of initiative was unprecedented not only for a largely underdeveloped country like India but also for developed nations. The conventional wisdom at the time was that a complete enumeration of the population is the most reliable method for measuring chosen variables. Statistical sampling challenged this conventional wisdom by claiming that reliable measurements can be obtained from a carefully chosen sample which is representative of the bigger population. This claim is accepted in the present time without anyone batting an eyelid, but it was a paradigm-breaking one in the late 1940s. For if it is true, Governments need not then spend enormous time, effort and resources to do a complete enumeration spanning the entire country to measure certain variables but can achieve the same result at a fraction of a cost through the statistical sampling method. For a resource constrained and a large country like India, the attractiveness of statistical sampling over complete enumeration is quite obvious. But the attractiveness holds only if the two competing methods deliver the same results more or less.[17] And this is where Nehru's decision to opt for NSS becomes more eye-catching. He opted for the NSS even when the methodology that underpinned it was not tried and tested. In the context of its time, the scope and method of the NSS were truly path-breaking, something which was commented upon in the Institute's Twenty Fourth Annual Report as follows:

> From 1950, the Institute started working on a vast project, namely, the design and analysis of the data of the National Sampling Survey which is collecting comprehensive information relating to social, economic and

> demographic characteristics on a countrywide basis in the form of two "rounds" of survey every year covering both rural and urban areas. This is reputed to be the biggest sample survey of its kind in the world today.[18]

Nehru's decision to entrust NSS to Mahalanobis and ISI was equally bold. Nehru could not have chosen a more competent man or a more credible institute to carry out the task not only in India but perhaps in the rest of the world as well. Few years later, in December 1953 in his monthly Letters to Chief Ministers he thus commented

> I visited…the Indian Statistical Institute founded and fathered by Prof. P.C. Mahalanobis. I have been watching this institute for many years since its early beginnings in a small way. It has now grown enormously and has become a real international centre of work. There were professors and students there from many other countries. In talking with them, I found that this Indian Statistical Institute was considered to be one of the best in the world and, certainly, the outstanding one in the whole of Asia. This was not a question of mere size, but much more so of the quality of work that was being done there. I was much impressed by it. More and more, we shall have to rely upon statistics, in the widest sense of the term, for our planning and other work. There can be no planning without adequate information…The Indian Statistical Institute has specialised in this work and is indeed, one of the pioneers.[19]

Notwithstanding the competencies of Mahalanobis and ISI, it was highly unusual for an academic institution to lead a government project of this magnitude and it reflects the confidence that Nehru had on its ability. The close connection between ISI and NSS is further evidenced by the fact that from 1950 to 1972 the sample survey wing of the ISI served as the technical wing of the NSS. The latter eventually got merged with the NSS Organisation of the Government of India.[20]

ISI gained even greater national prominence when following from the NSS, its secretary general Mahalanobis became the de facto chief architect of the Second Five Year Plan. The impact of centralised planning on the university system in India has been discussed in detail in the next chapter, but a brief overview is perhaps necessary here to situate ISI and Mahalanobis within the policymaking context of the time that was dominated by the planning ideology.

The idea that in an independent India the Government needs to take control of the 'Commanding Heights'[21] of the economy began to take root in the pre-independence period amongst the native intelligentsia.

The National Planning Committee of the Congress Party of which Nehru became the Chairman in 1938 envisaged a strong role for the state in the planning of the economy. The 'Bombay Plan' developed by some leading Indian industrialists in the early 1940s, often seen as the precursor to the Five Year Plans, also advocated centralised planning and the Government taking the lead role in the industrialisation of the economy. Nehru admired the technological and industrial progress made by the USSR which he attributed to the centralised planning approach adopted by the Soviets, of which their own Five Year Plans were an integral part

There was a meeting of minds between Nehru and Mahalanobis on the issues of centralised economic planning and on the role that statistics had to play in it. Mahalanobis had not studied economics and in the first article that he wrote on the topic of economic planning he was quite upfront about his lack of knowledge of economics. 'I am not an economist', he said, 'I have been mostly concerned with analytical statistics and my thoughts naturally turned to the possibility of using simple models on the lines of the physical sciences to study some of these problems'.[22]

Mahalanobis was of course not alone in his task of elevating economics to physics; other economists, before Mahalanobis and since, have tried a similar approach, and 'physics envy' is a well-recognised phenomenon in social sciences in general and economics in particular. The difference between Mahalanobis and other economists perhaps was that the former not only developed his physics-inspired economic model but also had the opportunity to implement it unhindered at a national level.

Mahalanobis explicated the link between statistics and economic planning and development in an article in *Sankhya*, the statistical journal published by the Institute.

> Statistics is not only an applied science but is also a public science. It is because of the close connexion with public activities that big developments in statistics have always occurred only when there has been need of unified policy and co-ordinated action in times of war or peace.
>
> I shall give three examples.
>
> 1. For a long time the volume of statistical work has been greater in the USA than in any other country of the world. But it was only during the New Deal in the 1930s when unified governmental policy became indispensable in the economic field, that effective action was first taken for the central co-ordination of the statistical activities of the Federal Government. Other large developments took place because of the need of

> planning in war production; and it was only in 1942 that an Act was passed to assign definite statutory responsibilities to the special Division of Statistical Standards in the executive office of the President of the USA.
>
> 2. In the UK also, under laissez-faire, statistics had been developing in a more or less haphazard manner without any local centre within the governmental machinery. All this, however, changed rapidly owing to the need of total planning during the war. A Central Statistical Organization was set up and was entrusted with the duty of reviewing and making a critical appreciation of all statistical information required by the Cabinet. Although the different Ministries have their own statistical divisions, there is complete co-ordination at the top. After the war, the importance of the Central Statistical Organization has continued to increase with the growth of social and economic planning in the UK.
>
> 3. In the USSR, developments in the statistical field have gone much further. From the beginning a Central Statistical Bureau has been an integral part of the GOSPLAN. No plan can be put into operation until it is cleared by the Statistical Bureau. The Bureau not only helps in preparing the different plans, but also submits reports on the progress of such plans on the basis of the information collected directly by the Bureau. In 1947, it had in fact a staff of 22,000 scattered all over Russia and paid and controlled directly by the Bureau. Central control by statistical methods is thus complete in the USSR.[23]

The institutions of NSS and Five Year Plans then should be seen as two parts of the same project with the former acting as a critical input to the latter. The First Five Year Plan (1951–1956) was not really a plan in the sense it was mainly a continuation of projects that were initiated before the Planning Commission was established in March 1950. Nehru was also preoccupied with the ensuing food crisis and political unrest in different parts of the country in the immediate years following the independence in 1947 to give much thought to the First Five Year Plan. Centralised planning in India started its life from the Second Five Year Plan onwards, and Nehru again chose Mahalanobis to lead the process in 1954. To cater to the expansion in its scope of activities, ISI established a separate division to focus on studies relating to 'planning for national development' which Nehru inaugurated in November 1954.[24]

Although Mahalanobis was not a formal member of the Planning Commission at this point in time,[25] he was the de facto chief architect of the Plan. At ISI, Mahalanobis and his team prepared a 'Draft Plan Frame' which they submitted to Prime Minister Nehru in March 1955 and was accepted by couple of months later by the National Development Council as the basis for the formulation of the Second Five Year Plan. The final Second Five Year Plan (1956–1961) reflects very closely the 'Draft Plan Frame'.

By 1955, ISI has attained a national character, being at the forefront of two key national initiatives—NSS and planning for national development. Without the political patronage of Nehru this would not have materialised. The other two actors of the triumvirate, C.D. Deshmukh and Pitambar Pant, also played important roles albeit not as significant as that of Nehru. Both were mainly bureaucrats although Deshmukh became the Union Finance Minister during the period 1950–1956. Of the two, Deshmukh played a more direct role in determining the fortunes of the Institute having held the post of President of ISI between 1945 and 1964. Intervention by Deshmukh certainly saved the Institute from financial hardships on several occasions. This is how he described his becoming involved with the affairs of the Institute:

> I had after 1938 been in almost continuous contact with Professor Mahalanobis in regard to the affairs of the Institute, apart from our being in contact as friends. Soon after I became Governor of the Reserve Bank of India in 1943, I discovered that Professor Mahalanobis was having considerable difficulty in persuading the Government of India in the Ministry of Education to give even relatively small grants….I believe my intervention, because I had a certain amount of influence as Governor of the Research Bank of India, was helpful and it was then that, having become a member of the society little earlier, I thought that the best opportunity to me of supporting this splendid work which Professor Mahalanobis was doing was to agree to assume responsibilities of the office of the President of Indian Statistical Institute.[26]

In 1945 Deshmukh was instrumental in securing a regular Government grant of Rs 5 lakhs to the Institute for its Research and Training School.[27] Again, in 1953, when he was the Finance Minister and a member of the Planning Commission, he was instrumental in securing funds to set up the Operational Research Unit at the ISI which was the genesis of the economic planning studies at the Institute.[28]

He also helped in forging the bond between Mahalanobis and Nehru. In 1949, he was appointed as the Financial Ambassador in the USA and Europe and in that capacity accompanied Jawaharlal Nehru in his trip to the USA in October–November of that year. Soon thereafter, Nehru involved Deshmukh in the organisation of the Planning Commission which was established in 1950. In 1952, Deshmukh became the Union Minister of Finance. The Institute had now two powerful friends at the heart of the Government, one being the Prime Minister and the other

being the Union Finance Minister, the latter also doubling up as the President of ISI. It was Deshmukh, as the Finance Minister, who posed the question which the Second Five Year Plan was designed to answer. Mahalanobis recounted the event as follows:

> On 14 September 1954 there was a full discussion in the Planning Commission, under the Chairmanship of the Prime Minister, on the basic approach to the formulation of the Second Five Year Plan which was due to begin in 1956-57. At the end of the discussion the Finance Minister asked: 'Is it possible to prepare a Plan which would enable unemployment being liquidated in 10 years and which would also provide for a satisfactory increase in national income at the same time?' This was the problem set to us.

Mahalanobis's answer to the question was that the Government should engineer a big push towards industrialisation of the economy particularly in the heavy capital goods sector. Nehru, Deshmukh and Mahalanobis all subscribed to the same recipe for economic development which had the following essential ingredients:

(a) Large scale industrialisation of the economy with emphasis on basic and heavy industries such as iron and steel and electricity
(b) The Government leading the industrialisation process through public sector investment
(c) A closed economy achieved through high level of import substitution

The mathematical formula that encapsulated the growth recipe later came to be eponymously known as the Mahalanobis Model.[29]

Pitambar Pant was another key figure who helped solidify ISI's status as the go-to Institute for the Government whenever they needed any help in relation to statistical data collection and analysis and planning of the national economy.

C.R. Rao, the former Director of the Institute and a close confidante of Mahalanobis, wrote:

> A significant role in the development of the Institute was played by the late Pitambar Pant, Pant was secretary to Jawaharlal Nehru during the independence movement in India. He was deputed by Nehru to the Institute to learn statistics in 1946. He was associated with the Professor since then

> and constantly helped him in all negotiations with the government, which at times turned out to be delicate and difficult. Although Pant was never an employee of the Institute, he took considerable interest and gave much of his valuable time to the Institute. He held honorary positions of Joint Secretary and Vice-President of the Institute, and for a long time directed the activities of the Delhi branch of the Institute.[30]

Mahalanobis himself acknowledged Pant's contribution. Reflecting on his excursions in economic planning, he wrote in 1955:

> Pitambar Pant, who like me started life as a teacher of physics, has been generally helping me since 1946. He was appointed Private Secretary to the Chairman, Planning Commission, in 1952, and has been actively assisting me in the planning work since then; he is now Deputy Secretary in the Planning Commission.[31]

Mahalanobis was an academic entrepreneur par excellence. He nurtured his political connections judiciously which often enabled him to overcome bureaucratic inertia that was prevalent particularly in the lower echelons of the official machinery. Rather than confining himself in the academic ivory tower he rolled up his sleeves and networked with politicians and bureaucrats which was absolutely essential in achieving his vision for ISI.

C.R. Rao, a long-time associate of Mahalanobis and who took over the leadership of ISI after Mahalanobis passed away in 1972, commented:

> No other top scientist in India is known to have quite as much connection with political parties, their leaders and activists, as Mahalanobis did. His strategy was to be friendly with all political parties, and he used to invite the leaders of all political parties to visit the ISI. …It was well known that the Professor was a good strategist and he did things with a purpose. The Indian Physicist C.V Raman once remarked that Mahalanobis knew 'which side of the bread was buttered'.[32]

That he was an academic of the highest calibre is partly illustrated by not one but two eponymously named theoretical frameworks—the Mahalanobis Distance and Mahalanobis Model—in two different field of studies: Statistics and Growth Economics. What makes Mahalanobis unique in the Indian context is that he was able to combine his academic brilliance with unparalleled networking and institution-building skills.

Autonomy and Academic Entrepreneurship

The question which has not received sufficient attention in the extant literature on ISI is why did Mahalanobis feel the need to establish a separate Institute in 1931? Why did he not expand the Statistical Laboratory of the Calcutta University which served as the prologue to the ISI story? Even after the establishment of ISI, the activities of the Statistical Laboratory (which continued its life in Calcutta University even after the conception of ISI) and those of ISI were often indistinguishable with Mahalanobis in command of both enterprises. To an observer not familiar with the dynamics of Indian university system, Mahalanobis's decision to start an institute outside his university to continue with more or less the same activities would appear puzzling. It was not as if Mahalanobis lacked influence in Calcutta University; he had it in abundance as evidenced by his setting up of the Statistical Laboratory in the Physics Department. He later started postgraduate studies in statistics in the University and in 1941 was instrumental in setting up of a Department of Statistics and became the Head of the Department. Having the backing of the oldest university in the country to develop a Centre of Excellence in statistics, which Mahalanobis was aiming for, may have appeared to be the sensible option. Yet that did not happen.

Mahalanobis, who subsequently wrote extensively on the history of ISI and of the vision that he had for the Institute, never explained the reasons behind the transition from the Statistical Laboratory to the ISI; it was almost as if the decision did not need an explanation as it was so obvious. Mahalanobis cherished autonomy in decision making. He wanted to build something original and path-breaking and would have known that his vision had no chance of materialising within the mainstream university system. There was little scope of academic entrepreneurship of the kind that Mahalanobis excelled in later as the leader of ISI, within the confines of the university system.

One good example of Mahalanobis's academic entrepreneurship was his ability to attract and retain top talent in the statistics discipline. One such instance is recounted by C.R. Rao:

> I had two first-class master's degrees, one in mathematics and another in statistics, and expected a higher salary. One day, I worked up the courage to tell him (Mahalanobis) that Rs 75 was not enough. He responded 'You are asking for more! Do not be a fool. You will hear from me soon'. I withdrew

> from his office shaking in my boots. I was glad to receive a letter a few days later offering me Rs 150 a month, a 100% increase!

A similar incident was also mentioned by Ashok Rudra, a PhD in statistics from the University of London, who was recruited by Mahalanobis to work in the Planning Unit at the ISI. Rudra reminisced that Mahalanobis did not even offer him a formal offer letter for joining and this unnerved him as he was taking some risk in going back to India to work when he had the option to seek employment in Europe. When he insisted on getting a formal offer letter, Mahalanobis's reaction was illuminating. Rudra recounted the incident in his biography of Mahalanobis:

> With a gesture of exasperation he (Mahalanobis) took out a pad with the ISI letter-head and, dashed off a few lines to say I was appointed as a technical worker…He then told me summarily that I did not deserve being paid anything at all, it is I who ought to pay him for the privilege of working in ISI with all its facilities…[33]

Rudra was not asked to work without pay as he got a salary of Rs 300 per month, but he later realised the import of Mahalanobis's remark on his salary and reminisced:

> There are many research institutions in India where the scientific staff are obliged to work on problems set by the authorities, research workers, especially young ones having no choice. Things were totally different in the Institute. So it was not really a joke but an unalloyed truth that he uttered when he said 'Why should I pay you….'[34]

To recruit top talent for his institute, Mahalanobis was willing to bend backwards sometimes and, in general, had an unorthodox style of management more in line with that of the leader of a privately held medium-sized corporation rather than that of the Director of an eminent academic institution in India. Such innovativeness and risk taking were unthinkable within the mainstream university system. Yet, this very autonomy was threatened by the increased involvement of ISI with big national projects like the NSS and the Five Year Plans.

As already mentioned, owing to the intervention of Deshmukh, ISI was able to secure an annual Government grant of Rs 5 lakhs in 1945 which improved the financial position of the Institute considerably. But this also brought about greater Government scrutiny of the affairs of the

Institute. The Government wanted a significant reorganisation of the governance structure of the Institute. More specifically, it wanted the Council that was entrusted with making the big decision for the Institute to be replaced by a Governing Body that will include representatives from the Government and other public sector bodies. In January 1947, in a letter to C.D. Deshmukh, the President of the Institute, John Sargent, the Education Secretary of the Government, suggested extensive reorganisation of the Institute's governance structure.[35] It is clear from the communication that the Government regarded the current arrangements as highly unusual and wanted the Institute to adopt a more conventional structure suggesting that 'the rules and regulations of the Indian Institute of Science and the rules and regulations of the Bose Institute…will provide models for framing the revised constitution of the Indian Statistical Institute'.[36]

Mahalanobis expressed reservations on the proposed changes and tried to push back on these plans. What particularly roused Mahalanobis's ire was the following passage indicating a 'take it or leave it' attitude of the Government:

> The Government of India would urge that the scheme as outlined above may be accepted by the Institute in entirety and introduced at an early date so that the Institute may embark on its useful work in time to be of use to the country in connection with the various plans for post-war reconstruction which have already been or shortly be introduced.[37]

Mahalanobis was also adamant that the governance structures adopted by Bose Institute and Indian Institute of Science would not work for ISI. In a detailed response to the Government's reorganisation proposals, he wrote:

> The Institute must help Government both at the Centre and in the Provinces and States. It must also help non-governmental public bodies and private businesses and industrial concerns in statistical matters. One of the most valuable services rendered by the Institute during the last fifteen years has been the educating of Government officers, businessmen and industrialists, scientific workers and the general public about the need and importance of using statistical methods. This work must obviously be continued in the future, and can be done by broad-based organization of a 'society' type.
>
> The reorganization of the Institute cannot, therefore, be considered or settled like that of a college or even an institute for research and teaching in a subject like mathematics, physics, chemistry or agriculture. The model

> of the Bangalore Institute of Science, the Bose Institute in Calcutta or the Agricultural Institute in Delhi is therefore not adequate.[38]

Mahalanobis thought that 'the Institute will function on the same lines as the Royal Statistical Society which is its counterpart in London'.[39] Between 1945 and 1948, draft plans went back and forth between the Institute and the Ministry of Education but in December 1948, a compromise was reached. The Institute proposed the following changes which were accepted in principle by the Ministry of Education:

> The present Council shall be replaced by a Governing Body consisting of
>
> (a) The President (ex-officio Chairman), the Secretary, and the Director of the Indian Statistical Institute (ex-officio members)
> (b) Two representatives of the Government of India
> (c) One representative each of the Reserve Bank of India, the Inter-University Board, the Associated Chambers of Commerce of India, the Federation of Indian Chambers of Commerce and Industry, the National Institute of Sciences of India, and the Indian Economic Association.
> (d) Seven members to be elected by the members of the Indian Statistical Institute.
> (e) One nominee of an individual donor who donated Rs.3 lakhs at a time. Such a nominee shall be entitled to membership of the Governing Body during the donor's life-time only
> (f) One nominee of any Authority or Association which donates Rs.3 lakhs at a time. Such a nominee shall be entitled to membership of the Governing Body for 15 years from the date of the donation.
> (g) One nominee of any Authority or Association which pays a grant of not less than Rs 25,000 per annum to the Institute. Such a nominee shall be entitled to membership of the Governing Body only for the duration of the grant.[40]

The proposal had also this rather strange clause in it:

> There shall be a Director of the Institute, who will ordinarily be a whole-time salaried officer, and shall be the executive head of the work carried on under the control of the Governing Body, but, in exceptional cases, the first condition may be waived with the previous concurrence of the Government of India.[41]

The clause that allowed the waiving of the general requirement of the Director being a whole-time salaried officer under exceptional cases was there to allow Mahalanobis continue as the leader of the Institute. With

his continued association with UN Statistical Commission, it would have been difficult to have him qualified as a 'whole-time' employee of the Institute.

It was clear that the Government involvement in running of the affairs of the Institute would increase significantly with these proposed changes and the autonomy that Mahalanobis cherished so highly was at risk of being diminished. Mahalanobis would have also felt frustrated with the fact that whereas the Government grant was specifically directed towards the development of the Research and Training School of the Institute, the proposed changes covered the governance of the entire institute.

Although it was reported in the Seventeenth Annual Report of the Institute that the changes will be formally adopted in the next General Meeting of the Institute, that never happened. The Eighteenth Annual Report of ISI reported the deviance from the draft reorganisation plan as follows:

> Special General Meeting of the Institute was accordingly convened on 31 May 1949 to confirm these changes, but a difficulty arose as on confirmation of the proposed changes the Council would immediately cease to exist, while a good deal of time would elapse before the Governing Body contemplated under the new constitution could be formed. The meeting had, therefore, to be adjourned until legal opinion was obtained as to a solution of the difficulty. Legal opinion was sought but no definite solution could be found and accordingly at the adjourned meeting of the Institute held on 16 July 1949 the issue could not be settled. Another lawyer was then consulted who expressed views differing materially from the previous one on certain points. In view of this conflict of opinion, the matter was referred to the Ministry of Education, Government of India, asking for advice as to what line should be taken by the Institute. No reply has however been received yet.[42]

It is not farfetched to conclude that as Mahalanobis was not satisfied with the reorganisation plan, the above was perhaps the handiwork of the entrepreneur at work trying to keep the Government in abeyance. To restrict the influence of the Government over the affairs of ISI and to preserve his and the Institute's autonomy, Mahalanobis came up with an alternate proposal.

Since 1947, Mahalanobis was the Chairman of the UN Sub-Commission on Statistical Sampling. The international status of Mahalanobis and ISI were further augmented in 1949 when a proposal was received by the

Institute to establish an international educational centre for statistics under the auspices of the UNESCO (who were funding the scheme), ISI and the International Institute for Statistics. Simultaneously, plans were afoot to appoint ISI to lead the National Sample Survey initiative of the Government.

Mahalanobis argued that the ISI in the near future will have three distinct streams of activity—research and training, international education centre for statistics and project-based work such as NSS—and a unitary governance structure as conceptualised in the reorganisation plan is not ideal for this scenario. Mahalanobis suggested

> that the constitution most suited to these circumstances would be one of a federal type with separate units of management for the different types of activities. For example, a Governing Body could be established to take charge of the research and training school. Similarly, a Board could take charge of the administration of the international education centre for statistics, while a separate Committee could be set up for the administration of large-scale projects.[43]

The revised proposal was accepted by the Government and put into practice in 1951. The Governing Body conceptualised under the old reorganisation plan now had a reduced sphere of influence—its remit limited to the Research and Training School (RTS) of the Institute and the Council retained its status as the apex decision-making body of the Institute. Interestingly, the final approval came from the Ministry of Finance in March 1951 which was led by C.D. Deshmukh who as the President of ISI also became the Ex-Officio Chairman of the Governing Body of RTS. The other Ex-Officio member was Mahalanobis who was both the Secretary of the Institute and the Director of the RTS. Apart from the Ex-Officio members, the Governing Body included two representatives of the Government of India, one representative of the Reserve Bank of India, one representative of the Inter University Board, one representative of the Associated Chamber of Commerce of India, one representative of the Federation of Indian Chamber of Commerce and Industry, one representative of the National Institute of Sciences of India, one representative of the Indian Economic Association and seven representatives of the Council of the Indian Statistical Institute.[44]

The conclusion that can be drawn is that Mahalanobis was able to reduce Government intrusion into the affairs of the institute at this stage

by some clever manoeuvrings which would have been made possible only because of the goodwill that he and ISI enjoyed at the higher echelons of Indian polity.

But in India, Mahalanobis soon found out that there is a price to be paid for Government funding of ISI. A year later there were talks of converting ISI into a Central University which were discarded no doubt at Mahalanobis's behest.

The Twenty Fourth Annual Report reported:

> In 1953 there was a proposal that the Institute should be converted into a University under a Central Act, but it was felt that there would be difficulties in preserving the operational and society type activities within the framework of a University. Since 1954 the Institute has been increasingly participating in studies relating to planning for national development. It was agreed that the Institute should retain its autonomous status but would be recognised by the Government of India as an institution of national importance.[45]

Mahalanobis increasingly became irritated with Government interference, and in 1954, in his letter to C.D. Deshmukh, he gave vent to his pent-up frustration:

> There are three ways in which the Institute can function, namely (a) as a purely Government organization; or (b) as a private society with entanglements with large scale Government projects; and (c) as a de facto nationalized enterprise without however being converted into a purely Government office, and retaining initiative and adaptability of administration.
>
> It is the third model which I have been consistently trying to follow, and I was hoping that by this time some appropriate procedure would be evolved in which the Institute would function for all practical purposes like a Government institution and yet retain the initiative of a free enterprise. I was hoping that instead of trying to impose detailed controls at each step, Government would reach some broad agreement about financial matters and decide future grants on the basis of results achieved in relation to costs. But I find that the question of detailed control from the Secretariat is continually arising; so that the third model is scarcely feasible….
>
> I am aware of your own awkward position because of your dual capacity of the President of the Institute and the Ministry of Finance…I do not, therefore, desire that you should intervene to remove each new difficulty. In fact, the real difficulty is inherent in the present system; and the officials concerned are often personally sympathetic and yet find themselves entirely powerless to overcome the obstacles. My struggles

> have been mostly against a machine which is impersonal, and incapable of responding to changing needs.[46]

Mahalanobis had sympathetic hearing from Deshmukh and more importantly from Nehru, and soon plans were afloat to cement the autonomous status of ISI.

Nehru himself piloted the ISI bill in the Lok Sabha which is illustrative of the importance he attached to it. He started by stating:

> That the Bill to declare the institution known as the Indian Statistical Institute having at present its registered office in Calcutta to be an institution of national importance and to provide for certain matters connected therewith, be taken into consideration.[47]

And he went on to explain the rationale of conferring the status of an institute of 'national importance' on it:

> Till now, it is not only the only but the very big institute doing statistical work in Calcutta, and in fact all over India. There can be no doubt about its importance. In fact, its importance is recognised internationally, all over the world…Statistical work of this kind is always important, but now, today, with our planning etc. it is of the utmost importance. There can be no planning without statistical work on a big scale.

Nehru focused on the particular issue of autonomy which Mahalanobis held to be central to the proper functioning of the Institute:

> Some people think that an Institute of this kind should, more or less, be a government organisation. This Bill is not meant to convert this into a government organisation. After a very careful thought, we have come to the conclusion that it should maintain and retain the autonomous character which it has had thus far, subject to various checks etc. which Government or Parliament may have…
>
> In the present Bill, therefore, we have accepted this basis for the Indian Statistical Institute to function as an autonomous organisation. But having said that, we have put in quite a large number of ways in which Government can see that the work is done according to its wishes, various checks and counter-checks are provided. But we have definitely and deliberately not put in Government Directors etc. which changes the whole nature of it.

He argued for ISI's autonomy on the basis 'that science and matters connected with science cannot be or should not be dealt with by the normal

governmental routine methods' suggesting that the reason why science has grown 'very considerably' in the USA and in the USSR was because of the 'latitude' given to their 'scientific apparatus'.

He also justified the power conferred to ISI in the Bill to grant degrees to its students, a privilege thenceforth limited to universities:

> By some previous Act, it is stated that degrees and diplomas could only be given by Universities. Now this goes slightly outside that scope, but in this particular sphere of Statistics, there can be no doubt at all that it is as competent a body as you can have. Some people have suggested, or may suggest, that these should be given with the approval of the Government. Now, I happen to be a humble member of Government, but this proposal that some Secretary or Deputy Secretary should decide who should get the degree or diploma seems to be quite remarkable in a specialised subject.

The Bill passed both houses of the Parliament, and the Indian Statistical Act was enacted on 24 December 1959 and came into force on 1 April 1960. It was earmarked as an 'institution of national importance' which essentially meant that it was under the jurisdiction of the Central Government rather than being under the auspices of the Provincial (state) Governments which most of the universities are in India. Such a title allowed the Institute to be unencumbered with provincial politics which is often the bane of universities in India. Being a Central Government higher education institution of 'national importance' also allowed it to be the recipient of generous public funding.

Although the desire for autonomy was the main driver behind the ISI Act, 1959, to what extent that was achieved remains debatable. In February 1966 the Central Government appointed a Review Committee chaired by Professor Humayun Kabir to evaluate the activities of the Institute. The Review Committee recommended many changes, some of which raised the bristles of the ISI management as they regarded them as impinging on the autonomy of the Institute.

As an example, the Review Committee recommended that:

> subjects for research should be selected with great care and there should be intensive work in a few selected fields instead of frittering away time and resources over a wide range.

Whether a committee made up mainly of Government bureaucrats can pass an informed judgement on the research agenda of a world-class Institute is a question that is not hard to answer in the negative, but this is precisely

the kind of Government interference that Mahalanobis complained about in his letter to Deshmukh in 1954.

The Committee's recommendations also focused on the NSS and national economic planning activities of the Institute. Between 1949 and 1965, the Institute's involvement with these two Government initiatives had been extensive. Although these were Government projects, they were, unusually for India, led by ISI, an independent academic institute. Operationally, it was not always clear where the Institute's responsibilities ended and the Government's began. This fluid state was undoubtedly due to the enormous confidence enjoyed by the Institute of Jawaharlal Nehru and of other top bureaucrats such as Pitambar Pant and C.D. Deshmukh. By the time Review Committee started its evaluation, Nehru had died and some of the recommendations made by the Committee can also be construed as a criticism of the way the Institute was run by Mahalanobis. To delineate the boundary between the Institute and the Planning Commission, the Committee recommended that

> The Delhi unit of the Planning Division (of the Institute) should have no operational link with the Government. For this purpose, it would be desirable to shift the Unit at present located in the building of the Planning Commission to other premises.

In relation to NSS work carried out by the Institute, the Committee proposed more fundamental changes:

> The entire National Sample Survey Work consisting of designing, data collection, processing and interpretation, should be brought under one unified control. This work, except for the state of West Bengal, should be entrusted to a new autonomous organization under the Government which would take over the existing work of both Institute and the National Sample Survey Directorate. All stages of the work relating to West Bengal should be done by the Institute. The responsibility for finalising the design, including that for West Bengal prepared by the Institute, will be that of the proposed new organization.

This amounted to a significant truncation of the Institute's involvement with NSS. From taking a lead role in NSS, the Committee's recommendation effectively demoted the Institute to a bit player to whom some work would be contracted out by the new organisation that the Commission recommended to be set up and that would in charge of NSS.

Other recommendations were also aimed at narrowing the scope of the Institute's activities. The Kalyanshri Unit of ISI, part of the Documentation Research and Training Centre, was to be transferred to the state Government or to a suitable voluntary organisation. The work of the Appraisal Division was found to be 'not relevant to the Institute's main objectives', the Family Planning Unit was to be 'placed under an appropriate organisation in the Ministry of Health', and Crop Museum, Agricultural Chemistry Unit and Agricultural Farm were to be transferred to the control of the Ministry of Food and Agriculture.

ISI had several guest houses in Delhi, Calcutta and Giridh, and they too attracted the wrath of the Committee. The guest houses were primarily used to host visiting scientists. One of the distinctive features of the Institute was that it was able to attract leading scientists, statisticians and economists across the globe to visit ISI either to lecture or to research at the Institute. Guest houses run by the Institute played an important role in this regard. However, the Review Committee did not see this in the same light and recommended that

> The Guest House at Delhi should be immediately closed. The guests at the Institute should be accommodated in the Central Government hostels in Delhi or in any hotel. The position about Guest Houses in Calcutta and Giridih should also be examined.

Recommendations were also made regarding the governance of the Institute. The Committee wanted the posts of Secretary (the position was held by Mahalanobis himself), Treasurer, Joint Secretaries and Assistant Secretaries to be abolished along with the Board of Management. It wanted in their place a 'Chairman who will be a whole time paid incumbent with the status of Vice Chancellor of a University' and Directors of different departments including Administration, Budget and Finance, Research and Training School and National Sample Survey.

The management of the Institute were understandably quite taken aback with some of the recommendations, particularly those which had the potential to significantly truncate the influence and scope of the Institute. The response of the management to the points raised by the Review Committee Report was considered in a General Meeting on 24 January 1968. The Thirty Sixth Annual Report of the Institute reported the summary of the considerations. The first two points of the summary amply demonstrate the frustration felt by Mahalanobis and other members

of the Council to the general thrust of the Report which was undoubtedly more critical than what they had expected:

> (a) It was felt by the Council that a good deal of the views and criticisms expressed by the Review Committee had been based on incomplete or inaccurate information and inadequate appreciation of the real position in respect of the subjects concerned. This resulted particularly from the fact that the Institute representatives did not get any chance of placing correct and full facts etc. in respect of these matters, at the stage of Review Committee's formulating their report.
> (b) In respect of a number of matters, the Review Committee did not give importance to certain parts of their terms of reference or was believed to have gone beyond the terms of reference.

Whilst Mahalanobis pushed back on the recommendations made by the Committee, it is clear that by this time the tide had turned. The Committees's recommendation for a new organisation to be put in charge of NSS was implemented with the establishment of National Statistical Office (NSO) in 1970 in the Department of Statistics under the Ministry of Planning, and the operational link between ISI and Planning Commission was also severed.

The Institute lamented its diminished scope and influence in the Eighty Second Annual Report of the Institute as follows:

> During 1971–72, two decisions of the Government of India produced serious repercussions on the functioning of the ISI. One was de-linking of the Institute from the Perspective Planning Division of the Planning Commission in 1971, while the other was the separation of National Sample Survey from the ISI and its take-over by the Central Government in 1972.[48]

ISI has continued to grow in numeric terms up until the present day, and it remains a hugely impressive Institute. It continues to enjoy greater autonomy in its decision making and is better funded in comparison to the mainstream university system. In quantitative terms, the Institute has expanded significantly. The Indian Statistical Act of 1959 conferred on the Institute the right to hold examinations and award degrees and diplomas in statistics. Through the Indian Statistical Institute (Amendment) Act, 1995, No. 38 of 1995, the portfolio of degrees was further expanded to include Mathematics, Quantitative Economics, Computer Science, and other such subjects related to statistics. In the academic session 2013–2014, a total of 14,623 applied for admission, whilst 303 candidates were offered admission. In the same year, the researchers of the Institute

published 23 books and 725 articles.[49] But the impressive numbers do not mask the fact that the Institute does not wield the same impact today compared to its halcyon days when Mahalanobis, Nehru, Deshmukh and Pant joined hands together to chart new waters and applied statistical sampling and analysis in centralised economic planning on an unprecedented scale.

Conclusion

ISI was identified as a paradigmatic case for this book. The aim was not to provide a comprehensive historical account of the Institute, but rather use its history to illustrate a particular aspect of the Indian higher education system. The Institute is an exemplary representative sample of the genre of 'autonomous institutes' which operate under the auspices of the Central Government rather than being a part of the provincial government machinery as is the case with most Indian universities. ISI is also perhaps the finest example of academic entrepreneurship in India. Starting from its humble origins in the Physics Laboratory of Calcutta University, its rise to the status of being the foremost academic institute in statistics in India would not have been possible without the entrepreneurship of Mahalanobis. He had the academic intellect, the drive to chart new waters, the capacity to work hard and the all-important networking skills, without which it is impossible to make any headway through the maze of the Indian higher education system.

The most significant aspect of the ISI case is the fact that Mahalanobis found it necessary to establish the Institute when he had already founded the Statistical Laboratory in Calcutta University. Indeed, even after the establishment of ISI, the affairs of the Institute and that of the Laboratory remained indistinguishable for a number of years.

The conclusion that can be comfortably drawn from this is that Mahalanobis felt that the Statistical Laboratory would not be able to give full expression to his vision which was to establish an institute which is not imitative of others before it. Autonomy of decision making and the development of a research culture both played crucial roles in the fostering of such an institute and both would not have been possible under the auspices of the mainstream university system. The importance that Mahalanobis accorded to autonomy becomes clear from his letter to Deshmukh where he contemplates resigning from the Institute after becoming frustrated with the constant interference by Government officials in the running of the Institute. His entrepreneurial spirit also becomes clear from his

wish that the Institute retain 'the initiative of a free enterprise'. The paradox was that he wanted his Institute to be dependent almost entirely on Government funding and yet to be independent of Government interference. In another context perhaps this was an entirely reasonable expectation. In the UK, for example, a country that Mahalanobis was intimately familiar with, this was the normal practice. Universities got teaching and research grants from the Government but there was very little interference by the state in University affairs. India, however, was a very different kettle of fish. From Curzon's time, the state got involved with almost all aspects of university affairs and this continued largely unchanged in the post-independence period. To think that Government would allow ISI to run unencumbered by their interventions when they were footing the bill was naïve to say the least.

The ISI Act of 1959 did not enshrine autonomy for the Institute, at least not in the way Mahalanobis would have wanted. The ISI Review Committee of 1966 truncated the Institute sphere of influence in several ways as shown in this chapter. Nevertheless, being granted the status of an institute of 'National Importance' did alleviate the financial concerns of the Institute, and, on the whole, it continues to enjoy greater autonomy than what is accorded to the mainstream universities in India.

The case of ISI demonstrates that it is possible for a developing country to catapult to the front of a particular academic discipline if the conditions are right. ISI can legitimately lay claim to be an organisation that instituted the practice of systematic national-level surveys. The NSS when it started in 1949 was truly a path-breaking initiative. ISI also led the way to apply statistical methods in national-level planning of the economy.

Between 1950 and 1960, ISI was arguably the premier statistical institute not in India and Asia but also in the world. To achieve this status in the context of a developing nation with a largely illiterate population and an examination-oriented higher education system lacking a research culture was truly significant. So, how was this made possible? The ISI case suggests that were three essential ingredients.

First, the academic entrepreneurship which has already been commented upon was central to its success. To a great extent, ISI was Mahalanobis's, its fortunes closely linked with that of its founder. Whilst this explains the meteoric rise of ISI throughout the 1950s, it also proffers an explanation of its relative stasis after the departure of Mahalanobis from the scene.

Second, excellence in research contributed enormously to the worldwide reputation of ISI as a centre of excellence in statistical studies.

The institute gained a reputation for excellence in research throughout the 1930s, 1940s and 1950s, primarily manifested through its journal *Sankhya: The Indian Journal of Statistics.* The International Statistical Institute under the auspices of UNESCO chose ISI to the loci of the International Statistical Education Centre for Statistics and the Central Government selected ISI to spearhead the NSS and contribute extensively to the Five Year Plans and both decisions can be attributed, in part, to the reputation of the Institute developed primarily through its excellence in research. One of the reasons for its excellence in research was the ability of the Institute to collaborate with top talent across the globe on a sustained basis. Mahalanobis interacted and collaborated extensively with Karl Pearson and Ronald Fisher who are considered the founders of modern statistical analysis. Renowned scientists like J.B.S. Haldane, the noted geneticist and mathematician, became part of the faculty. The list of Visiting Professors and Lecturers of the Institute reads like the Who's Who in the fields of Statistics and Economics. Former faculties like C.R. Rao and Ashok Rudra who had written about their experiences at ISI have commented on the academic freedom that they enjoyed during their time at the Institute.

Third, ISI succeeded because there was political will behind it that propelled the institute from provincial obscurity to national and international prominence. The role of Nehru has been discussed in this chapter extensively. Research excellence and academic entrepreneurship, important though they are, would not have been sufficient by themselves. It needed the backing of a man like Nehru, arguably the most influential political leader of Modern India, to cut through the bureaucratic inertia and legacy practices and put an academic institute at the forefront of two huge national initiatives—NSS and Five Year Plans. It was of course again Nehru who was instrumental in pushing the ISI Act through the Parliament which conferred the status of 'an institution of national importance'. The experience of ISI highlights the importance of enlightened political leadership in the development centres of excellence in higher education.

Transforming ISI into a Central Government-funded higher education institute with degree granting powers also entrenched the institution of 'Autonomous Institutes' in India. The Central Government had struck upon a way to establish higher education institutes under their control bypassing the largely provincial university system. The status of 'national importance' provided a rationale for direct Central Government funding

of these institutes. What this did not do however is reform the moribund university system. This aspect of the Indian higher education system has been discussed in greater detail in the next chapter.

Notes

1. In Cambridge University a Tripos is any of the undergraduate examinations that qualify an undergraduate for a bachelor's degree.
2. In *Prasanta Chandra Mahalanobis: A Biography* (Delhi: Oxford University Press, 1996), Rudra quotes a letter written by Mahalanobis to his mentor Dr B.N. Seal: 'My first introduction to actual statistical analysis was in connexion with your work on the percentages of passes in the Calcutta University….In the course of this work you made a most comprehensive survey…using detailed investigations of the frequency of distributions of marks in the different University examinations in different years, correlation between marks, percentage etc, with a separate study for women… I was in close touch with the actual computational work, during portions of two vacations when you were away at Darjeeling' (p. 128).
3. Ibid., p. 135.
4. In the first Annual Report of the Institute (1932–33), the objects of the institute are defined as 'promotion of the study of both pure and applied statistics as well as the encouragement of research and dissemination of knowledge of these subjects'. While arguably 'encouragement' and 'dissemination' can legitimately include teaching and training, subsequent pronouncements by Mahalanobis confirm that they were not high on the agenda initially.
5. Excerpts from the 23rd Annual Report of the Institute cited in Rudra, Ashok, Prasanta Chandra Mahalanobis: A Biography (Delhi: Oxford University Press, 1996) p. 167.
6. Ibid., pp. 167–8.
7. Cited in 'Indian Statistical Institute: Fourteenth Annual Report: 1945–46', Sankhya: The Indian Journal of Statistics, 8, 87–102 p. 87.
8. 'History and Activities of the Indian Statistical Institute 1931–63', 1963 published by ISI available at PC Mahalanobis Memorial Museum and Archives.
9. Ibid.

10. Ibid.
11. Ibid.
12. 'Indian Statistical Institute: Seventeenth Annual Report: 1948–49', *Sankhya: The Indian Journal of Statistics*, 10 (1950), 167–85 p. 167.
13. Girish Mishra, 'Nehru and Planning in India', *Mainstream*, LII.47 (2014) http://www.mainstreamweekly.net/article5320.html.
14. 'The National Sample Survey: General Report No. 1. First Round: October 1950–March 1951', *Sankhya: The Indian Journal of Statistics*, 13.1/2 (1953), 47–214 p. 51.
15. Ibid., p. 51.
16. *The Preparation of Sampling Survey Reports* (New York: Statistical Office of the United Nations, February 1950) http://unstats.un.org/unsd/publication/SeriesC/SeriesC_1_revised.pdf.
17. Mahalanobis claimed that in countries that were large in size and with a high rate of illiteracy, random sampling can in fact be more accurate than complete enumeration due to non-sampling errors, the incidence of which can be higher in the latter compared to the former. Later research by Ghosh et al. (1999) showed that Mahalanobis was justified in making this claim.
18. 'Indian Statistical Institute: Twentyfourth Annual Report: April 1955–March 1956', *Sankhya: The Indian Journal of Statistics*, 17.3 (1956), 251–304.
19. Ibid., pp. 478–479.
20. Bhattacharya, Nikhilesh, 'Professor Mahalanobis and Large Scale Sample Surveys', in *Science, Society and Planning: A Centenary Tribute to Professor Prasanta Chandra Mahalanobis*, ed. by Dhires Bhattacharya (Calcutta: Progressive Publishers, 1996), pp. 34–41.
21. A phrase first used during Vladimir Lenin's New Economic Policy in the Soviet Union. It meant that the state had control of large enterprises particularly those relating to heavy industries.
22. P.C Mahalanobis, 'Some Observation on the Process of Growth of National Income', *Sankhya: The Indian Journal of Statistics*, 12.4 (1953), 307–12. p. 307.
23. P.C Mahalanobis, 'Why Statistics?', *Sankhya: The Indian Journal of Statistics*, 10.3 (1950), 195–228. p. 211.
24. 'Indian Statistical Institute: Twenty fourth Annual Report: April 1955–March 1956', *Sankhya: The Indian Journal of Statistics*, 17.3 (1956), 251–304.

25. Mahalanobis was a member of the Planning Commission for the Third Five Year Plan and later led the Perspective Planning division of the Commission.
26. Ibid., p. 197.
27. C.D Deshmukh, 'Foreword', in *Contributions to Statistics: Presented to Professor P.C. Mahalanobis on the Occasion of His 70th Birthday*, ed. by C.R Rao (Calcutta: Statistical Publishing Society, 1963).
28. P.C Mahalanobis, 'The Approach of Operational Research to Planning in India', *Sankhya: The Indian Journal of Statistics*, 16.1/2 (1955), 3–130.
29. $Y_t = Y_0 \left\{ 1 + \alpha_0 \frac{\lambda_\kappa \beta_\kappa + \lambda_c \beta_c}{\lambda_\kappa \beta_\kappa} \left[\left(1 + \lambda_\kappa \beta_\kappa \right)^t - 1 \right] \right\}$ In the model the growth rate is given by both the share of investment in the capital goods sector, λ_κ, and the share of investment in the consumer goods sector, λ_c. Higher investment in the capital goods sector will result in increasing the value of λ_κ greater than λ_c. This will initially result in a slower growth in the short run, but in the long run will exceed the former growth rate choice with a higher growth rate and an ultimately higher level of consumption.
30. Rao, C.R., 'Mahalanobis Era in Statistics', in *Science, Society and Planning: A Centenary Tribute to Professor Prasanta Chandra Mahalanobis*, ed. by D Bhattacharya (Calcutta: Progressive Publishers, 1996) pp. 17–18.
31. P.C Mahalanobis, 'The Approach of Operational Research to Planning in India', *Sankhya: The Indian Journal of Statistics*, 16.1/2 (1955), 3–130. p. 5.
32. 'The ET Interview: Professor C R Rao', *Econometric Theory*, 19 (2003), 331–400. p. 356.
33. Ashok Rudra, *Prasanta Chandra Mahalanobis: A Biography* (Delhi: Oxford University Press, 1996). p. 427.
34. Ibid., p. 428.
35. Letter from John Sargent, Education Secretary to the Government of India to C D Deshmukh, President, ISI, Calcutta dtd 16th January, 1947. 'ISI Correspondences (1947–49)' file available at P.C Mahalanobis Museum and Archives, ISI Calcutta.
36. Ibid.
37. Ibid.

38. 'A Note on the Reorganization of the Indian Statistical Institute' dtd 14th March, 1947, New York available at ISI Correspondences (1947–49) file available at P.C Mahalanobis Museum and Archives, ISI Calcutta (pp. 32–40).
39. Ibid.
40. 'Indian Statistical Institute: Seventeenth Annual Report: 1948–49', *Sankhya: The Indian Journal of Statistics*, 10.1/2 (1950), 167–85. p. 167.
41. Ibid., p. 168.
42. 'Indian Statistical Institute: Eighteenth Annual Report: 1949–50', *Sankhya: The Indian Journal of Statistics*, 10.3 (1950), 283–300. p. 283.
43. Ibid.
44. 'Indian Statistical Institute: Twentieth Annual Report: 1951–52', *Sankhya: The Indian Journal of Statistics*, 12.4 (1953), 380–412.
45. 'Indian Statistical Institute: Twentyfourth Annual Report: April 1955–March 1956', *Sankhya: The Indian Journal of Statistics*, 17 (1956), 251–304 p. 253.
46. Cited in Rudra, Ashok, *Prasanta Chandra Mahalanobis: A Biography* (Delhi: Oxford University Press, 1996) p. 202.
47. Jayanta Ghosh, Pulakesh Maiti and Anil Bera, 'Indian Statistical Institute: Numbers and Beyond, 1931–47', in *Science and Modern India: An Institutional History, c.1784–1947: Project of History of Science, Philosophy and Culture in Indian Civilization, Volume XV, Part 4*, ed. by Uma Dasgupta (Delhi: Pearson Longman, 2011). Appendix E p. 1048–1049.
48. *Eighty Second Annual Report April 2013 – March 2014* (Calcutta: Indian Statistical Institute, March 2014) p. iv available at http://www.isical.ac.in/AnnualReport/AnnualReport_13-14_English.pdf.
49. Ibid.

CHAPTER 6

Indian University System: *Emerging from the Shadows of the Past*

India gained its independence on 15 August 1947. The first Prime Minister of the independent nation, Jawaharlal Nehru was an intellectual and a consummate politician. If anyone had the vision and capability to reform the moribund examination-oriented university system in India, it was Nehru. A graduate of Cambridge University, Nehru was a man brimming with ideas as he took charge of the newly independent country. Yet, although the higher education system, on the whole, experienced important changes after the independence, the mainstream university system continued, in the main, unreformed. This chapter concerns itself with the main developments within the higher education system during the post-independence period. The attempt here is to provide an explanation of the important changes across the higher education landscape in India and also the lack of them within the mainstream universities.

As explained in previous chapters, for the British, the university system was an integral part of the colonial machinery. It was designed to produce graduates in sufficient numbers to fill up the lower echelons of the government bureaucracy. The examination-oriented system was cheap to run and easy to administer. The colonial Government resisted reforms, going to great lengths as we have seen in the cases of University of Calcutta and IISc. Teaching and research which were taken for granted at universities in the UK were resisted on the ground that will vitiate the specific character of universities in India.

S. Datta, *A History of the Indian University System*,
DOI 10.1057/978-1-137-53571-9_6

With independence however, the university system that fitted in cosily within the network of colonial institutions suddenly lost its raison d'être. The stage was set for Nehru to usher in reforms that the sector was in desperate need of but they did not materialise. The lack of reforms was not due to a lack of interest. Nehru had lots of interesting ideas on higher education, science and research. Already in Chap. 5, we have seen how he was instrumental in propelling the Indian Statistical Institute onto the national scene and cementing its status as the premier institute of its kind in India. But in terms of reforming the moribund university system, he achieved very little.

The chapter takes the view that the distinctive features of the Indian higher education system were discernible by the mid-1960s. Beyond that, although the system registered impressive growth figures in numerical terms, there was little change in its fundamental characteristics. Hence, the focus here is mainly on the period between 1947 and 1964.

Two things fundamentally shaped the higher education system in India in the couple of decades following the independence in 1947—a man and an ideology. Nehru's ideas on higher education obviously played an important role in shaping his education policies but it is suggested here that these were subservient to his ideas and policies relating to the overall economic development of the country. The basic motivation that shaped the Indian economy in the couple of decades after independence was the desire to engineer a 'socialistic pattern' in the development of the economy. Centralised economic planning became a tool for achieving this objective. The suggestion here is that the changes in the higher education system in the country that one witnessed in the period between 1947 and 1964 cannot be understood properly unless they are situated within the socio-economic context of the time which was dominated by the ideology of centralised economic planning.

This chapter is structured in the following way. First, the evolution of 'autonomous institutes' as a separate class of HEIs (higher education institutions) is traced through two outstanding exemplars of this genre—Indian Institute of Technology (IIT) and Indian Institute of Management (IIM). Special attention is paid to the motivations that underpinned the establishment of these institutions and the ideological backdrop of that policy. Second, an overview is provided of the current Indian higher education system. To make sense of a system that may appear somewhat clunky and seemingly inefficient, an appreciation of its history is essential. Over the preceding chapters, the different case histories have illustrated

particular elements of the system. In this section, an attempt is made to show the tensions and complementariness that exist between the different elements and how the whole thing 'hangs together'. In the third and the final section, some of the main challenges facing the Indian university system are explicated. Important critiques of the current system have been put forward over time by scholars from inside. These ideas are evaluated and sometimes reinterpreted using some of the learning from this research. The suggestion here is that some of these critiques miss the wood for the trees. The deficiencies of the university sector cannot be understood unless they are seen within the context of the overall higher education system; what happens in one part of the system, directly or indirectly, affects another.

The Radhakrishnan Commission Report 1948–1949

On November 1948, the Indian Government appointed a commission to review the university system and make recommendations in regard to 'the aims and objects of university education and research in India'. The Chairman of the Commission was S Radhakrishnan, who was at the time the Vice Chancellor of Banaras Hindu University. Radhakrishnan certainly had impeccable credentials for the job having been the Spalding Professor of Eastern Religions and Ethics at the University of Oxford in the mid-1930s and even earlier in the 1920s the George V Chair of Mental and Moral Science at the University of Calcutta.

Much of the report reads like a treatise on philosophy and there is no doubt of Radhakrishnan's influence on its drafting. But in its recommendations the report did little to reform the nature of the university system in the country -lots of high sounding words but the legacy system was largely kept intact.[1]

In September 1949, before the report was officially published, Nehru commented on the main thrust of reforms suggested by the Radhakrishnan Commission.

> The Chairman gave some idea of their recommendations in a press conference. They have pointed out the evils of tying up our examination system with government appointments. These examinations of ours and the education that lies behind them are looked upon just as stepping-stones to employment by government. Nothing could be worse for education. Our universities turn out tens of thousands of graduates who do not know what

> to do and appear to be incapable of doing anything except in some office. Our education has been described, perhaps a little uncharitably, as a training for unemployment. That may be an exaggeration. But there is a great deal of truth in it. So it is suggested that university examinations should be completely divorced from official appointments for which there should be separate tests.[2]

There was no effort to change the examination-oriented system; rather, the reforms were meant to remove the political influence over it. Even in this respect, the recommendations did not bear any results as political interference in university affairs only grew in the years to come.

It is perhaps unfair to be very critical of the Radhakrishnan Commission as the political and socio-economic context was very volatile at the time. India was not yet a republic, there was communal unrest in Kashmir and in Hyderabad, and the country was undergoing a severe food shortage. India was still suffering from the birth pangs of a new independent nation and one can sympathise with the limited ambition displayed by the Commission in the pages of its report.

India became a republic on 26 January 1950 and with it ushered in the era of centralised planning in India.

The Planning Paradigm

The Planning Commission started working in March 1950 and with it started India's experiment with planning to achieve a 'socialist pattern of society'.[3] Reading Nehru's 'Letters to Chief Ministers', one is left with no doubt where Nehru stood on the issue of 'planning'.

Writing in September 1950, he exhorted the Chief Ministers the ideal of planning in general and more specifically the institution of Planning Commission.

> There has, unfortunately, sometimes been some criticism of the Planning Commission and some lukewarm regard for it…I am quite convinced that without a planned approach we are doomed to failure. As for the particular Planning Commission that we have appointed, it is, I feel sure, as good as any could have been appointed. It is to be a small body, or else it becomes a conference which discusses a great deal without doing anything. But, though small, it consults large numbers of other people at the Centre and in the States….No department of Government should refrain from giving the fullest co-operation to the Planning Commission…It must be remembered that our economic policy is going to be a planned one with all that this means.

> There is no other choice and no other way. Planning means co-ordination all over India and not separate bits of planning, and the main directing agency for planning will be the Planning Commission of the Centre.[4]

To Nehru, science and technology were tools for achieving the goals of the Five Year Plans. The higher education, science and technology policies that Nehru implemented need to be understood and appreciated in this context.

Writing in 1955, P. C. Mahalanobis, the chief architect of the Second Five Year Plan, explained its main objectives as follows:

- to attain a rapid growth of the national economy by increasing the scope and importance of the public sector and in this way advance to a socialistic patter of society;
- to develop basic industries for the manufacture of the producer goods to strengthen the foundations of economic independence;
- to increase the production of consumer goods as much as possible through household or hand industries; and to provide an adequate market for production.[5]

The basic aim was to focus the public sector investments on heavy industries (producer goods) and leave the production of consumer goods to small-scale industries that would be protected from competition from the big private sector firms. 'Factory production' of consumer goods would be allowed only for that part of the demand that cannot be fulfilled by the 'household and hand industries'.

The rationale came out of the twin challenges that Mahalanobis saw India facing at the time—first, the need for rapid industrialisation for economic development and, second, the problem of unemployment. Foreign direct investment and private domestic capital that could have helped redress at least in part the first problem was ruled out on the basis of 'economic independence' and the need to generate a 'socialistic pattern of society'. That necessarily left the Government take up the 'Commanding Heights' of the economy by investing heavily in basic industries like iron and steel, coal, electricity, heavy machinery, heavy chemical and other heavy industries which would 'increase the capacity for capital formation'.

To address the problem of employment, the plan was to encourage labour-intensive production of consumer goods and consciously limit 'factory production' which may be more efficient but would be more capital intensive and consequently require less labour in the production process.

It was obvious to India's planners that such high investment by the government in basic and heavy industries would also require engineers, scientists and other technical personnel and hence for the success of the 'bold plan' (Second Five Year Plan) it was essential to have 'rapidly increasing technical staff to prepare the various projects as well as to implement them'.[6]

The idea that India needs organised economic planning for development dates back to the pre-independence era, and Nehru was involved from the outset. He was appointed the Chairman of the Planning Committee in 1938, an initiative of Subhash Chandra Bose, the nationalist leader who was the President of Indian National Congress at the time.

But the most important planning document came from a group of industrialists and technocrats who in 1944 produced what came to be known later as the 'Bombay Plan'.[7] Historians have pointed out the similarities between the Bombay Plan and the Second Five Year Plan formulated a decade later. The main vision of the Bombay Plan was for the Government to take charge of the 'commanding heights' of the economy by investing in and running basic and heavy industries and the same idea featured prominently in the Second Five Year Plan as well. Both plans were influenced by the 'success' achieved by the Soviets in planning their economy. One of the main architects of the document was Ardeshir Dalal, who was later instrumental in setting up of the first IIT in Kharagpur, West Bengal. The two initiatives were not coincidental; rather they were linked in a fundamental way.

The 'Bombay Plan' had foreseen the requirement of technical manpower that would be essential to run the public sector enterprises in basic and heavy industries. They suggested spending 'roughly 5/1000ths of the national income per year' on university and scientific education and research and carefully benchmarked this expenditure against comparable spending in the UK (1/1000th of the national income), the USA (6/1000ths of the national income) and the USSR (10/1000ths of the national income).

But Dalal took this idea further when he was appointed to Viceroy's Executive Council (the cabinet) in June 1944. Wavell, the current Viceroy, was impressed by the ideas espoused in the Bombay Plan, and this most probably affected his decision to recruit Dalal as a Member In Charge of Planning and Development.

Dalal, in 1946, as part of the Viceroy's Executive Council (the cabinet), along with Jogendra Singh, Member In Charge of Education, Health

and Agriculture, was instrumental in setting up a committee to develop a blueprint for technical education in India as a sovereign and independent nation. The Interim[8] Sarkar Committee Report became the basis for establishing the Indian Institute of Technologies (IITs). Dalal again played a pivotal role in implementing the recommendations of the Sarkar Committee Report and setting up the first IIT in Kharagpur in 1951.

The terms of reference for the Sarkar Committee Report[9] can be seen as the continuation of the same planning project envisaged by the Bombay Plan. Whilst the Bombay Plan articulated the need for massive industrialisation of the economy led by the public sector, the Sarkar Committee Report[10] was about 'ensuring an adequate supply of technical personnel which will be required for post-war industrial development in this country'.

More specifically, the Committee was to investigate 'whether it is desirable to have (a) a central institution possibly on the lines of the Massachusetts Institute of Technology, with a number of subordinate institutions affiliated to it, or (b) several higher institutions on a regional basis, or (c) any other organisation'.

On this issue, the Committee was decidedly in favour of option (b) and recommended setting up of 'several Higher Institutions of equal status on a regional basis'. They suggested that to start with 'not less than four Higher Technical Institutions, one in the North, one in the East, one in the South and one in the West will be necessary'. Going further, they recommended that the first of these four should be set up in Calcutta (representing the Eastern region) and the second should be located in Bombay (Western Region).

Whilst the Sarkar Committee is correctly referred to by historians as providing the blueprint for IITs, what has generally been ignored is the note of dissent by one member of the Committee, the physicist Dr Nazir Ahmad. His dissent related to the obvious question—why spend limited available resources on new technical institutions that have to be built up from the scratch when there are existing higher education institutions that can perform the role?

Dr Ahmad wrote in his note that the Sub-Committee that was entrusted with the responsibility to ensure that the 'Committee should be in possession of all the information regarding facilities for such high technical education at present available in the country' failed in its task as 'very little attempt' was made 'to explore the facilities which are already available in the country and which can be developed for the purpose of higher technical education'.

Anticipating the future quite accurately, he went on to comment, 'In real planning for the future, we must take into account the existing resources and must try to build upon them. This process has always been followed in Europe and America where, whenever the need has arisen, the possibility, of developing the existing institutions has first been explored before putting up new institutions. If this process is not followed, the existing institutions are likely to stagnate and decay while the newer institutions will work in an atmosphere of isolation.'

Dr Ahmad's misgivings have, in the main, proved accurate over time. IITs stand today in splendid isolation, pockets of oasis in an otherwise largely barren desert. They play by different rules and have produced different outcomes in comparison to the conventional university system.

The Committee largely relied on a letter written by Brigadier Woolfe, Controller General of Inspection, GHQ, to Dr John Sargent, Education Adviser to the Government of India (both were members of the Committee), to dismiss the concerns expressed by Dr Ahmad and press ahead with their recommendations of four new technical institutions.

Woolfe's preference was for specialised technical education 'Give me a Fuel technologist or a Dye Chemist and I know what to do with him but difficulties arise at once when I am asked to employ a B.Sc. with chemistry or physics as his special subject', and he was apprehensive that 'the weakness of the present system will be continued and the market will be flooded with B.Sc.'s whom no one will employ'.

As the 'present system' could not deliver high-calibre technical personnel, the Committee recommended setting up new technical institutions from scratch. Unarticulated in the document is an exposition of the state of play in the higher education sector. The university system was, in the main, the domain of provincial governments, and the Committee Members were perhaps keen that the new institutions fall outside their ambit to ensure autonomy and adequate funding.

The umbilical cord that linked the proposed technical institutions with the Bombay Plan also becomes apparent from an almost throwaway comment made by Woolfe. Commenting on the number of students that could be recruited for the proposed institutions, he wrote, 'Sir J. C. Ghosh mentioned the figure of 4,000 per year. I have forgotten his formula which I think was based on the cost of the Bombay plan.'

Both Woolfe and the Committee did not care to elaborate on this reference to the 'Bombay Plan' which is indicative of the taken-for-granted nature of the ideals espoused in the Plan by the Committee Members. The Sarkar Committee Report was about implementing the Bombay Plan—it

tackled the issue of provision of technical personnel that would be needed to carry out the task of massive industrialisation of the economy by the public sector. Whilst the Bombay Plan dealt with the big picture, the Sarkar Committee addressed the details, particularly that related to the supply of technical personnel.

Nehru and Indian planners at the Planning Commission took on board much of the Bombay Plan although there were important differences between the actual Five Year Plans and their spiritual predecessor. Dalal, one of the contributors of the Bombay Plan and one of the sponsors of the Sarkar Committee Report, played a pivotal role in convincing B.C. Roy the Chief Minister of West Bengal to provide land for the first IIT which was initially housed in Kolkata but later was shifted to Hijli, Kharagpur, a sleepy little town about 100 km from the capital city of West Bengal. Four other IITs followed in quick succession.

The interplay between planning and higher education is perhaps best embodied by Dr J.C. Ghosh, who was a member of the Sarkar Committee that developed the blueprint of the IITs in 1945, became the Director of the first IIT in 1950 and was appointed a member of the Planning Commission in 1955.[11]

The IITs were declared as institutes of 'national importance' in the IIT Act of 1961. The designation reflected the key role these institutions were expected to perform in the planning era that was dawning on the country. The genre of 'Institute of National Importance' was of course started when the Indian Statistical Institute, whose case history has been discussed in detail in Chap. 5, was endowed with the status in 1959.

The influence of planning was even more direct in the setting up of the other class of HEIs, that of management education. The Planning Commission in 1959 realised that whilst IITs can provide the technical manpower to the state-owned industrial enterprises, there is bound to be a requirement for managers who will administer these massive public sector organisations. Keeping this in mind, they took on board recommendations of Professor George Robbins of UCLA, who, under the aegis of the Ford Foundation, wrote a report on the feasibility of HEIs in India that specialise in management studies. The key points of the reports were:

(a) High degree of autonomy for the institution which would be possible only outside of the conventional university system
(b) Scope of activities to include teaching, research and consulting
(c) Mechanisms for faculty development

Although Robbins Report recommended setting up of one institution to start with in Bombay, the Government of India opted for two, one in Calcutta and the other in Ahmedabad. Bombay was possibly overlooked as the University of Bombay had earlier rebuffed the idea of a management school as recommended in Robbins Report as it had reservations of the level of autonomy suggested.

IIM Calcutta was established in 1961 and IIM Ahmedabad in 1962. With the birth of these institutes, the die was cast. The essential features of the higher education system in the country have remained largely unchanged since that time. This is not to say that the sector has remained static. In terms of sheer numbers, there has been a tremendous expansion of the sector.

But the key features of the system such as politicisation of the governance of the mainstream university system, the dominance of provincial governments in university affairs, lack of autonomy for university administrators and the staff, examination-orientated teaching and administration, lack of incentives for staff to engage in research and develop relations with external stakeholders like the industry—they all have remained largely unchanged over the fifty-five odd years.

The conventional university system was left unreformed. Instead policymakers struck upon a way to bypass the university system and set up autonomous institutes that fulfilled specific goals of the central government. Autonomous institutes were typically better funded and enjoyed greater degree of freedom in terms of deciding on the curriculum, staff appointment and interactions with external stakeholders such as the industry. While in terms of their governance structures these autonomous institutes often differ from each other (IITs were formed through an Act of the Parliament, whereas IIMs were created under Societies Act), their commonality stems from the way they were and still are different from the conventional university system.

The Structure of the Indian Higher Education System Post 1964

By the time Nehru passed away from the scene, the structure of the higher education system that we witness in the present time was firmly in place. The main groupings are as follows:

(a) State Universities
(b) Central Universities

(c) Deemed Universities
(d) Private Universities
(e) Autonomous Institutes
(f) Research Institutes

The vast majority of Indian universities are State Universities, under the control of provincial governments. Currently their numbers stand at 343. There are 46 Central Universities and 125 Deemed Universities. There are also 228 Private Universities.

To get a sense of the difference of scale in terms of student numbers, in 2004–2005 150,000 students were enrolled in Central Universities, while 6,644,000 were enrolled in State Universities.[12] This means that roughly 98% of university students in India study in provincial universities.

The Central Universities are funded solely through University Grants Commission (UGC) grants, whilst the State Universities are funded mainly by the provincial governments although they can bid for funds from UGC. It is hard to get financial information pertaining to Indian universities; however, one report found that a typical State University would have 63% of its income from the State Government, 17% from UGC, 9% from examination and tuition fees and the balance from other miscellaneous sources, whilst a typical Central University derived 91% of its income from the Central Government, less than 1% from the State Government and the balance from miscellaneous sources.[13] Some of the Deemed Universities are funded through UGC, whilst others receive direct funding from the Central Government. The Private Universities are mainly funded through private not-for-profit societies or organisations.

India is a federal state with legislative powers distributed between the Central and State Governments. In some legislative areas, there is clear demarcation between the two, but education is one domain where both have power. Universities can be established through an Act of the State Legislature (State University) or through an Act of the Parliament (Central University). Private Universities are usually established by State Legislatures.

Education has been a devolved subject since the time of Dyarchy in the British Raj. The First World War forced the colonial government to give local Indians a greater say in running of the country's affairs. The Government of India Act of 1919 specified two categories of administration. One was the 'Reserved' subjects that were put under the control of the Provincial Governor and his executive council; the other was

the 'Transferred' subjects which were under the control of Ministers of the Provincial legislature. Universities became the responsibility of the Provincial Ministries and the colonial government lost interest in the universities although it still held the power of financing them.

The provincial nature of Indian universities that started with the Dyarchy still persists in the present time. There has always been a strong political influence on the student body in universities. It was the hotbed of Indian nationalism in the British Raj which was the reason why Curzon extended the Government's control over university affairs through his University Act of 1904. But in Modern India, the Student Union in universities often serves as a training ground for future politicians. Disruption of teaching and administration in universities through student unrest is a fairly common phenomenon. Politicisation of the student body is compounded by the inordinate reliance of State Universities on respective State Governments for their funding. This necessarily politicises the University administration and this coupled with the political nature of the student body make the influence of politics in State Universities all pervasive. Provincialism of higher education which started in India as a British response to Indian nationalism has become a key feature of the system.

But is this a good or a bad situation? Does provincialism aid development of higher education or hinder it?

The question is important as the answer to it helps us to understand some of the important policy decisions of the Central Government pertaining to higher education in the country during the 1947–1964 period.

The proposition that education is a public good is well established in the literature. Knowledge is non-rivalrous and non-excludable and has many positive externalities associated with it. The public good nature of education also makes it a candidate for its public provision. In most countries across the globe, governments take the lead role in the provision of primary and secondary education. When it comes to higher or tertiary education, the logic is less clear-cut. Many countries, like Germany for example, hold the view that higher learning is as much of a public good as primary and secondary education and consequently ensure public provision of it. Others take the view that tertiary education has characteristics of private good, that is, it has more private benefits associated with its acquisition than positive externalities. Hence, in many countries we find the joint provision of higher education coming from both public and private agencies. It is important to note here that there is an inherent logic of government provision of higher education at a national rather than a

provincial level. It is hard to make the argument that the positive spillovers from university education can be contained within a particular province or region. More likely the whole nation stands to benefit when a particular province provides quality higher education to its students. Hence, prima facie, there is less incentive for provincial governments to invest heavily in higher education as they do not gain proportionately from the positive externalities it generates. This explains in part the chronic underinvestment in higher education by the provincial governments in India. Moreover, higher education policies of provincial governments are likely to be oriented to the requirements of the province and not of the nation as a whole.

The role of universities in national economic development has been highlighted in particular in system theories of innovation like National System of Innovation (NSI) and the Triple Helix Model (THM). The main proposition of these theories is that economic development is facilitated when the key actors, such as the university, the government and the industry, act in concert. University is seen as the main progenitor of original ideas which can be capitalised on by the industry or the university itself whilst the government plays a key role in terms of devising appropriate institutions that lubricate such interactions and also provisioning for research and development as appropriate.

The provincial nature of the State Universities has meant that they have not engaged fully within the country innovation system. Policymakers in India since the time of Nehru have grappled with the problem of incorporating the higher education sector in the project of national development. One option, after independence, would have been to reverse the trend of provincialism of higher education in the country and make the universities more national in character. But they chose not to go down this route. It is perhaps not hard to understand the reason behind this decision and it harks back to the original logic of the Indian university system. Faced with the task providing higher education to a burgeoning population, the resource-constrained newly independent country decided to stick with the prevailing system which, being examination oriented, was relatively inexpensive to run and administer.

The limitation of this strategy became apparent when the need arose of skilled manpower and technical knowhow when India embarked on an ambitious project to industrialise itself from 1950 onwards. Large-scale public investments in basic and heavy industries required the human capital and applied knowledge that could not be provisioned by existing

universities. As the majority of the universities were under the control of provincial governments, the Central Government could do little to direct them in such a way that they serve the needs of the economic policies that were developed at a national scale.

As we have already discussed, Nehru chose to bypass the mainstream universities altogether and set up national institutes like the IITs and the ISI. The fact that they were labelled 'Institute of National Importance' underlined their two important features—these institutes were designed to be in the service of the nation (as opposed to a region or a province) and that they were to be funded directly by the Central Government. These institutes were technical and specialised in nature. IITs were designed to produce engineers who would be the backbone of the public sector heavy industries, IIMs were to develop administrators who will run the giant public sector bodies, and ISI was to help the government to plan the whole thing in the first place. Enjoying greater autonomy in decision making and being relatively better funded, these technical institutes soon turned into Centres of Excellence in higher education in India, filling the gap that existed within the mainstream university system. It is important though to keep in mind that the success enjoyed by the IITs and IIMs over the years has materialised in a very different way compared to what was originally envisioned. Rather than taking up employment in public sector bodies, graduates of these institutes, in the main, found opportunities in the private sector, particularly after the liberalisation of the economy in 1991. Earlier, during the 1960-1990 period, a significant percentage of the graduates, after failing to find suitable employment within the country, chose to emigrate to other countries and in particular to the United States. One indicator of the success enjoyed by these economic migrants is the influential network organisation, TiE (The Indus Entrepreneurs) in the Silicon Valley whose founding members were primarily IIT graduates

The other national need that the universities were unable to cater to was industrial research. The vision of Jamsetji Tata that universities in India will develop close linkages with the industry remained largely unfulfilled by the time India gained its independence. Again the decision was taken by the Central Government to bypass the university system and set up autonomous research institutes that were designed to encourage industrial research in the country. As the 'Commanding Heights' of the economy were to be in the hands of the public sector, it followed logically that it would also have to take the lead role in the field of industrial research. Under the auspices of the Council of Scientific and Industrial

Research (CSIR) a series of National Laboratories were set up across the country shortly after India gained its independence. The main concern of these Laboratories was research and they carried no commitment for wider dissemination of knowledge through teaching.

The Humboldtian conception of higher education which had the unity of teaching and research at its core was decisively rejected at this point by the policymakers. It was not as if no one raised any concern that research was going to be permanently diverted to these Laboratories at the expense of universities. Shanti Swarup Bhatnagar became the first Director of CSIR in 1942, and he addressed the concern that National Laboratories are attracting talented researchers from universities to their shores in his convocation address delivered at Maharaja Sayajirao University of Baroda, in October 1953:

> It appears that some people's ideas of these Laboratories vis-à-vis the universities are still not clear. Recently the Vice Chancellor of the Andhra University wrote to me that several responsible persons were expressing the view that as the country has a chain of excellent national laboratories in most branches of sciences, it is not necessary for universities to undertake advance work in science. I would like to take this opportunity of dispelling any misconceptions which still exist on this subject and re-emphasizing that universities and national laboratories have complementary functions to perform….in my speech at the opening of the National Physical Laboratory, I stressed the fact that national laboratories are not intend to supplant but, to supplement the work of the individual or collective industrial concerns and universities in respect of research. The scope of the research may be likened to a continuous spectrum, at one end of which is pure academic work of the highest quality and at the other the technical development of process and equipment.
>
> Generally speaking, universities are concerned mainly with fundamental research while the activities of national laboratories lie essentially in the domain of applied research, though these laboratories are not precluded from taking up investigations of a fundamental character.

In other words, Bhatnagar was making the distinction between basic and applied research and claiming that whilst the former was predominantly the domain of the university, the latter was of the National Laboratories.

The distinction was problematic both in a general sense and also in the particular case of India. The boundary between fundamental and applied research is often blurred. Very few institutions across the globe

specialise solely in pure or fundamental research. CERN, the European Organization for Nuclear Research, is perhaps the outstanding example of an institution that focuses only on basic research with no concern for the applied variety. But it is the exception that proves the rule. In the vast majority of cases, institutions that excel in basic science also have the edge in applied research. As an example, in the UK, the University of Oxford and the University of Cambridge top the list in terms of securing public funding for basic research and, at the same time, are the two biggest recipients of contract research funding from private sources.

Moreover, Bhatnagar's suggestion that universities in India were in a better position to carry out fundamental research was not rooted in reality. In the era of 'Big Science' fundamental research required a very high level of public funding support which was virtually non-existent in Indian universities. Bhatnagar himself talked about the transition to 'Big Science' in his speech delivered at the foundation ceremony of National Physical Laboratory in June 1947. He noted that the organisation of science had undergone tremendous changes since the Second World War and it demanded large-scale specialised techniques and huge public funding. Deprived of such funding, Indian universities did not get the opportunity to excel in research, fundamental or otherwise.

Challenges Facing Indian Higher Education System

The politicisation of higher education was apparent when Nehru wanted to make the Osmania University based in Hyderabad a central university and faced opposition from local politicians. Nehru wrote in October 1952:

> Another agitation…is against the decision to make the Osmania University a central university. Partly this agitation was due to misunderstanding and partly, I think, to political reasons, wholly unconnected with educational matters. I am quite convinced that it is desirable for the Osmania University to be a central university. This is good for India as a whole, for the South, but more particularly for Hyderabad state itself. I think the opposition to this is entirely misconceived.[14]

Yet, local politics won the battle. The proposal was opposed both by the ruling Congress Party and members of the Opposition, and ultimately the Government of India dropped the idea. Education became a competency of provincial governments in the British era in 1919 as highlighted in Chap. 3 owing to Dyarchy, the concession of the ruling elite to

Indian nationalists. Yet this historical artefact of the negotiation of power between the colonists and the subjugated indigenous populace came to be accepted as the 'natural' order of things even in Independent India. There has never been a serious debate in India whether education should be a competency of the central or the state government. This inability to reflect on the historical conditions that have shaped the higher education sector and to evaluate whether the current arrangements make sense in a radically changed environment (from being a British colony to being an independent nation) has been one of the main problems in securing substantial reforms to the system.

The main challenge to university reform was undoubtedly the intrusion of politics into almost every aspect of the university affairs. Nehru repeatedly agonised over the issue:

> …(T)he fact that some of our State Ministers hold executive offices in universities has come to my notice. Two Ministers at least are treasures in universities. I think this is completely wrong. Ministers must not have any executive office in a university and should, as far as possible, not be intimately concerned with its inner working.[15]

Frustrated with student unrest in university campuses in Uttar Pradesh which he attributed to the politicisation of university governance,[16] Nehru wrote in November 1953:

> No member of the Government should be actively associated with the executive functioning of the university. Such association might well produce embarrassing situations, as the Government, or rather the Education Ministry of the Government, has to deal with the university in a variety of ways. If a Minister is actively associated, then there is danger of his being considered as belonging to some particular group in the university and this will affect the whole of the Government. A Minister should be much above this kind of thing so that he can exercise his influence more effectively.
>
> As the Vice-Chancellor is the pivot of the university, his appointment must not be a matter of private canvassing and dispute in the university itself. The greatest care should be taken in the appointment of educationists, and not pure politicians, to this post.
>
> If we are to maintain any kind of academic atmosphere or discipline in a university, we must keep out what are called party politics from it….it appears to me totally wrong for the university to become the playground of or the scene of conflict between political parties. Not only students but professors and teachers must keep these party politics out of the university.

However, he could do little to change the situation in State Universities apart from pleading to the good nature of the provincial government which mainly fell on deaf ears.

There have been well-informed criticisms of the country's university system from within. G.S. Mansukhani, the Development Officer in University Grants Commission, edited a book titled *Crisis in Indian Universities* as early as 1972, where the key deficiencies of the system were pointed out. The central issue was the lack of autonomy which manifested itself in several ways. Mansukhani highlighted the fact that universities do not have the freedom of appointing its own academic staff

> …(T)he university must have freedom of appointing its own academic staff. Moreover, the appointment should not be subject to supervision or control of any other authority like the Public Service Commission or the State Education Department. In Patna University teachers are appointed by the State Public Service Commission and in other universities of Bihar, teachers are selected by the University Public Service Commission.[17]

The bane of the Indian university system, the all-pervasive nature of the political influence in the running of university affairs was also pointed out by providing some illuminating examples:

> Recently, it was reported that interference by politicians in the affairs of Jabalpur Krishi Vishwavidyalaya hampered the development of its research programmes. The major interest of the political members of the Board of Management has been to provide jobs to their protégés. Jobs created in Agra University to accommodate nominees of political groups were criticised in the press, on grounds of favouritism and nepotism. A flagrant example of abuse of power was the setting up of a university in Madhya Pradesh by the then Chief Minister in his constituency through an Ordnance and naming the university after his father.[18]

He goes on to say that 'the cases of interference by State Governments in the functioning of universities are too numerous for citation'.[19] The fact that politicisation of university affairs is all-encompassing becomes clear when one considers the 'teacher-politician who monopolises power and gets involved in administration',[20] the student body that is dominated by party politics and the university administration that is 'vulnerable to blackmail by politicians as it depends on the government for funds'.[21]

Thirteen years later, in January 1986, a Study Visit by a group of thirteen university administrators from the UK and the Republic of Ireland

detailed the governance and management of Indian Universities. It is clear from their report that little had changed over the interim period.

They found that 'state government officials were often members of key committees in the university'[22] and funding of the university often depends on whether it has close links with key government officials. The most important university position of the Vice Chancellor was 'almost invariably appointed by the Chancellor in his absolute discretion'. The process was described as follows:

> A selection committee consisting of government and university nominees presents up to five names to the Chancellor who then either appoints one or instructs the selection committee to repeat the process.[23]

They reported, with what we can only presume to be some level of incredulity, that government officials including police officers have been appointed to the position of Vice Chancellorship in the past.

Indian Universities are not unaware of the nature of the problem that plagues the sectors. The UGC and the Association of Indian Universities jointly organise every year a Round Table for Vice Chancellors at which important matters relating to university administration and management are discussed. The Second Round Table Meeting was held in June 1995, and in the report that was subsequently published, the problem was neatly summed up:

> Both the UGC and the universities have a major challenge before them. We need to work together, in joint partnership, if we have to achieve our goal of taking education into the 21st Century fully shedding the encumberances of the 19th Century British oriented education, which has haunted the 20th Century….the affiliating system of London University, on which our universities were patterned, is no longer functional…Unless we are gear up to face the challenges, we would have failed, not only our students, but also our country.[24]

Indian academia, it should be clear from the quote, is perfectly able to self-diagnose the disease that it is afflicted with. How to cure it is however a completely different challenge.

Somewhat paradoxically, the task of reforming the mainstream university system may have become even more difficult in the present time compared to what it was at the dawn of independence in 1947. Then there were no Autonomous Institutes or Research Laboratories to con-

tend with. It would have been relatively easier to institutionalise the unity of teaching and research within the university system without these later developments. The disintegrated nature of the current higher education system makes the task of institutionalising the Humboldtian University model that much more onerous. The Autonomous Institutes are often the loci of Centres of Excellence in the academia in India, but they are, in general, technical institutes that have relatively narrow scope focusing on few disciplines. The Research Laboratories/Institutes on the other hand have no teaching mandate apart from housing few doctoral researchers. Teaching excellence and research have both developed independently from the mainstream university system in the post-independence period and the task of uniting them inside it perhaps represents the greatest challenge to Indian policymakers.

Notes

1. A copy of the report can be found online at this link http://www.educationforallinindia.com/1949%20Report%20of%20the%20University%20Education%20Commission.pdf.
2. Parthasarathi, G, ed., *Jawaharlal Nehru Letters to Chief Ministers 1947–1964* (New Delhi: Jawaharlal Nehru Memorial Fund, Government of India, 1985), pp. 453–454.
3. This ambition featured prominently in the 2nd Five Year Plan (1956–1961).
4. Parthasarathi, G, ed., *Jawaharlal Nehru Letters to Chief Ministers 1947–1964* (New Delhi: Jawaharlal Nehru Memorial Fund, Government of India, 1986) Vol 2 1950–52 p. 205.
5. Mahalanobis, P.C, *Talks on Planning* (Calcutta: Statistical Publishing Society, 1961) p. 22.
6. Ibid., p. 26.
7. The document was later published as a Penguin Book – P Thakurdas and others, *A Plan of Economic Development of India: Parts One and Two* (Middlesex: Penguin Books, 1944).
8. For reasons that are not apparent, there was never a 'Final' Sarkar Committee Report.
9. A copy of the report can be found at this link https://www.iitsystem.ac.in/Reviewreports-upload/2b16521a10628ca095.pdf.
10. *An Interim Report of the Committee Appointed to Consider the Development of Higher Technical Institutions in India* (1946, Delhi).

11. Paranjape, H.K, *Jawaharlal Nehru and the Planning Commission* (New Delhi: The Indian Institute of Public Administration, 1964) p. 7.
12. Pawan Agarwal, *Indian Higher Education: Envisioning the Future* (New Delhi: Sage Publications India Pvt. Ltd., 2009) p. 129.
13. *The Government and Management of Indian Universities: Study Visit to Indian Universities* (Witney: Conference of University Administrators, January 1986) p. 20.
14. Parthasarathi, G, ed., *Jawaharlal Nehru Letters to Chief Ministers 1947–1964 Volume 3 1952–1954* (New Delhi: Jawaharlal Nehru Memorial Fund, Government of India, 1987) pp. 113–114.
15. Parthasarathi, G, ed., *Jawaharlal Nehru Letters to Chief Ministers 1947–1964 Volume 3 1952–1954* (New Delhi: Jawaharlal Nehru Memorial Fund, Government of India, 1987) p. 444.
16. Ibid., pp. 448–449.
17. G.S. Mansukhani, 'University Autonomy', in *Crisis in Indian Universities* (New Delhi: Oxford & IBH Publishing Co., 1972) p.17.
18. Ibid., p. 22.
19. Ibid., pp. 22–23.
20. Ibid., p. 20.
21. Ibid., p. 24.
22. *The Government and Management of Indian Universities : Study Visit to Indian Universities* (Witney: Conference of University Administrators, January 1986) p. 15.
23. Ibid., p. 22.
24. A.S. Desai, 'Policies in Higher Education in India', in *Policies of Higher Education* (New Delhi: Association of Indian Universities, 1995).

CHAPTER 7

Conclusion

As stated at the outset, this book is not an attempt to provide a comprehensive historical account of the Indian university system. Neither indeed it endeavours to provide a history of the different universities and institutes that feature in it. The prime objective here has been to provide an explanation of the nature of the Indian university system—to point out its specificities and its peculiarities and try to explain how they came about. As is the case with most institutions, the Indian higher education system is also a product of its history. It has been the view of this book that the specific nature of the Indian university system has evolved and this evolution has been impacted by different political ideologies and varying economic conditions that were at play over time. An explanation of the nature of the institution requires an understanding of these factors.

The dominant characteristic of the Indian university system is its orientation towards examination at the expense of teaching and research. The Examining University model, discussed in Chap. 1, has become something of a rarity amongst all the species of the genus *university*, but in India it is alive and well. In Chap. 3, the founding model has been analysed in detail. What is important to note is that whilst in Britain, the Examining University model instituted through the University of London (circa 1836-1900) was an outlier, in India it became the norm. In the process the Humboldtian unity of teaching and research in university education became an almost alien notion in the country. Reforms that attempted to institutionalise the Humboldtian unity were resisted by the colonial

S. Datta, *A History of the Indian University System*,
DOI 10.1057/978-1-137-53571-9_7

government, often by invoking the perverse rationale that they militate against the specific nature of the Indian universities. The book has illustrated two such reform efforts—one by Asutosh Mookerjee in Calcutta University (Chap. 3) and the other by Jamsetji Tata, the founder of IISc (Chap. 4). That there was an Examination University model within the university system was not by itself a problem. The real problem was that it became the *only* model. The lack of diversity in university models remains till date the defining characteristic of the system.

Mookerjee was successful to some extent in transforming Calcutta University from an unalloyed Examining University model to a situation where the University started teaching postgraduate courses in earnest, and professorships were instituted to carry out original research work. Another institutional innovation that Mookerjee excelled in was in raising funds from benefactors for original research. The amount of money he raised was unprecedented, and in fact, such innovative and large-scale fundraising has not happened thence in the history of the University. The biggest disappointment to Mookerjee was that the benevolence of the donors was not matched by the Government. Despite the proclamations of the virtues of teaching and research by the Chancellors of the University, who were also the chief executives of British India, when the time came to back up the high-sounding ideals with hard cash, they demurred. The gap between rhetoric and reality of the colonial administration when it came to policies relating to higher learning had always been rather stark. This was amply evident in the tussle between Lord Curzon and the Tata family, in the matter of setting up a 'University of Research' in India, discussed in Chap. 4. The inordinate delay that occurred between the time when the project was conceptualised in 1898 and its implementation in 1911 was mainly due to the intransigence of the Government of the day. The vision of a genuine Research University was scaled down to that of a 'Technical Institute' at the insistence of the Government. The Government was not interested in the vision of the Research University having decided that the only university model suitable for India is that of the Examining University.

The reasons behind the preference for the Examining University model have been discussed in detail in Chaps. 2 and 3. The British in India had a utilitarian view of higher learning. Right from the establishment of the Asiatic Society in 1784 which was set up to decipher Hindu legal codes embedded in religious texts to the university system in 1857 designed to produce graduates on the cheap to staff the lower echelons of the civil

service in India, the goals of the higher learning were tailored to the needs of the colonial enterprise. The English utilitarian mode of thinking would have appreciated the cost-benefit analysis of the Examining University model which put minimum pressure on the public exchequer whilst producing graduates in sufficient numbers.

The other defining characteristic of the Indian university system is its provincial nature. The vast majority of Indian universities are State Universities under the control of provincial governments. The roots of this provincialism also extend to the colonial period. As discussed in Chap. 3, the Calcutta University Commission Report in 1919 articulated starkly enough the deficiencies of the University which it shared with other universities around the country. The main recommendation of the Commission was to transform the University to a Teaching University but this was never implemented not in the least because Dyarchy happened and education became one of the devolved subjects under the nominal control of indigenous Ministers of the Provincial Government but the purse strings were still controlled by the Central Government. Dyarchy was a mess, a situation that neither satisfied the democratic wishes of the indigenous populace nor the ruling elite, but it effectively allowed the latter to wash its hand off the matter of reforming the university system.

The fact that much of the legacy university system was kept unchanged after independence can be a puzzle. It is easier to understand the motivation of the British for the university model that they institutionalised in the country. Along with the judiciary and the civil service, the university system formed a part of the network of institutions that sustained the British Raj. For the British, the home and the colony constituted the whole. There was a sort of division of labour between British and Indian universities. Whilst the Viceroys of British India were tutored in Oxford and Cambridge, the clerks of the Writers' Building in Bengal were examined by University of Calcutta.

In an independent India, the colonial legacy university system lost its meaning, yet it was kept largely unchanged. An explanation has been provided in Chap. 5, which has looked at the important developments within the university system post-independence. The answer has two parts. The first part relates to economics—the economics of the Examining University trumps that of the Teaching University. India at the dawn of its post-independence era was an impoverished nation. Institutionalising the Teaching University model in the country would have required funding the tertiary education sector to an extent that was not really feasible

within the limited resources that the Government had at its disposal. The second part of the explanation has to do with the ideology that dominated political thinking in India in the years following its independence. To develop the economy on a 'socialist pattern' through centralised planning had been the avowed goal of Jawaharlal Nehru, the first Prime Minister of India. The institution of Five Year Plans in India was conceived mainly to put this policy into practice.

Nehru, in the decades following the independence, had a similar instrumental view of higher learning in the country as the British from whom he took over the reins. The goals were different of course, but the idea that the purpose of the higher education system is subservient to a greater cause remained the same. The reforms in the higher education system post-independence need to be seen in this light. The focus of economic policymaking was on industrialisation of the economy through public investments in basic and heavy industries.

The requirements of the policymakers from the higher education system were engineers in sufficient numbers, industrial research and intelligence for economic planning. Rather than depending on the mainstream university system to cater to these needs, the Government chose to create new institutions for them. So, the IITs and IIMs (discussed in Chap. 6) were created, the former to produce engineers who would operate the public sector-owned basic and heavy industries and the latter to supply administrators who would manage them. ISI, discussed in Chap. 5, started its life in the colonial era but came into national prominence when it became the leading player in the project of developing Five Year Plans for India and in the production of National Sample Surveys. For industrial research, the Government opted for a mix of old and new. Existing institutes like the IISc were impressed upon to tailor its research to focus on basic and heavy industries. As discussed in Chap. 6, new autonomous research institutes like the National Physical Laboratory were also created under the auspices of CSIR to advance the state of industrial research in the country.

In the process of implementing these reforms, the mainstream university system was left mainly untouched. The reasons for this have been discussed in Chap. 6. Provincialism of Indian universities and the all-pervasive influence of politics in every sphere of university affairs are the main reasons why the Central Government chose to bypass the mainstream university system and create new institutions around it. A broad perspective of the university system in India should then encompass the institutions

that were created outside its boundaries specifically to avoid some of the maladies that afflict it.

ISI is illustrative of the genre of 'Autonomous Institutes' which forms a key feature of the higher education landscape in India. They are often the loci of Centres of Excellence within the academia in India and hence merit close inspection. The class of Autonomous Institutes actually encompasses a variety of organisations—they have been brought about by acts of the Parliament and they are also Societies for Higher Learning under the Societies Act. But as the label suggests, they enjoy certain autonomy which is generally not accorded to the mainstream universities. Many of them have degree-granting powers, and some of them have been awarded the status of 'Institute of National Importance' (INI), signifying their special place within the genre. ISI ticks all the boxes. It is undoubtedly a Centre of Excellence for statistical studies, has degree-granting powers and was the first in India to be endowed with the status of an INI in 1959. Chapter 5 has looked at the reasons behind the phenomenal rise of ISI from its humble beginnings as the Statistical Laboratory located in the Physics Department of Calcutta University to its position as the premier statistical research and teaching institute in the 1950s not only in India but, arguably during this period, also in the world. Its founder, P.C. Mahalanobis, cherished its autonomy and expressed his frustration many times with the interferences of Government officials in the running of the Institute as it became more dependent on Government funding for survival. Even the status of INI was not sufficient to provide the kind of autonomy that Mahalanobis desired and which contributed to it being a world-class institute in the 1950s. The lack of autonomy in academic affairs is also one of the main reasons for the mainstream universities being unable to develop Centres of Excellence within them. Many well-informed critiques have been made by Indian academics themselves of the lack of autonomy, and some of them have been highlighted in Chap. 6.

The success that ISI has enjoyed, in particular between 1949 and 1964, would not have been possible without Nehru championing its cause through the labyrinth of Indian politics and bureaucracy. On its own, the undoubted brilliance of Mahalanobis would not have been sufficient to propel ISI to national and global prominence. This is illustrative of both the strength and weakness of the Indian higher education system. Politics can be debilitating but it can also have a salutary impact. Enlightened politicians who appreciate the value of higher learning perhaps represent the best hope for the urgent reforms that the sector is in need of.

In conclusion, it can be said that the defining characteristics of the Indian university system—its examination orientation, its provincial nature, undue influence of politics in its administration, its disintegrated character—have evolved over time through a complex interplay between history and path dependency. *History matters*—on its own the statement can be rather facile in the explanatory context. This book has attempted to demonstrate how it has mattered in relation to the Indian university system. Path dependency, where the present choices are limited by the decisions made in the past, can also be discerned clearly in the evolutionary trajectory of the university system. Indian policymakers at the dawn of independence in 1947 chose not to dismantle the examination-oriented and provincial university system for reasons that have been discussed in this book. They however responded to the development needs of the newly independent nation and came up with creative solutions such as the institutions of Autonomous Institutes and Research Laboratories that resided outside the mainstream university system. Indian policymakers in the present time, who are interested in reforming the university system, hence have to deal with the consequences of the decisions made as far back as the days of Education Despatch in 1854. One can safely say that the university system in India has not yet emerged from the shadows of its past. It is an ongoing process.

Bibliography

Agarwal, P. (2009). *Indian higher education: Envisioning the future*. New Delhi: SAGE Publications.

Axtell, J. (2016). *Wisdom's workshop: The rise of the modern university*. Princeton: Princeton University Press.

Banerjea, S. N. (1925). *A nation in making: Being the reminiscences of fifty years of public life*. Calcutta: Oxford University Press.

Banerjee, P., Ray, N., & Gupta, P. (Eds.). (1957). *Hundred years of the University of Calcutta 1857–1956: A history of the university issued in commemoration of the centenary celebrations*. Calcutta: University of Calcutta.

Bayly, C. (1988). *Indian society and the making of the British Empire*, *The new Cambridge history of India*. Cambridge: Cambridge University Press.

Bayly, S. (1999). *Caste, society and politics in India from the eighteenth century to the modern age*, *The new Cambridge history of India*. Cambridge: Cambridge University Press.

Bayly, C. (2004). *The birth of the modern world 1780–1914*. Cambridge/Oxford/Victoria: Blackwell Publishing.

Bera, A. K. (2003). The ET interview: Professor C. R. Rao. *Econometric Theory, 19*, 331–400.

Bhattacharya, N. (1966). Professor Mahalanobis and large scale sample surveys. In D. Bhattacharya (Ed.), *Science, society and planning: A centenary tribute to Professor Prasanta Chandra Mahalanobis* (pp. 34–41). Calcutta: Progressive Publishers.

Cannon, G. (Ed.). (1970). *The letters of Sir William Jones*. Oxford: Oxford University Press.

Chaudhuri, S. (Ed.). (1980). *Proceedings of the Asiatic Society, Volume 1, 1784–1800*. Calcutta: Asiatic Society.

S. Datta, *A History of the Indian University System*,
DOI 10.1057/978-1-137-53571-9

Cohn, B. (1996). *Colonialism and its forms of knowledge: The British in India*. Princeton: Princeton University Press.

Desai, A. S., (1995). Policies in higher education in India. In *Policies of higher education*. New Delhi: Association of Indian Universities.

Deshmukh, C. (1963). Foreword. In C. Rao (Ed.), *Contributions to statistics: Presented to Professor P.C. Mahalanobis on the occasion of his 70th birthday*. Calcutta: Statistical Publishing Society.

Ghosh, S. C. (1988). The genesis of Curzon's university reform: 1899–1905. *Minerva, 26*, 463–492.

Ghosh, S. (1994). Calcutta university and science. *Indian Journal of History of Science, 29*, 49–61.

Ghosh, J., Maiti, P., & Bera, A. (2011). Indian Statistical Institute: Numbers and beyond, 1931–47. In U. Dasgupta (Ed.), *Science and modern India: An institutional history, c.1784–1947: Project of history of science, philosophy and culture in Indian civilization* (pp. 1013–1056). Delhi: Pearson Longman.

Halhed, N. B. (1781). *A code of Gentoo laws: Or, ordinations of the pundits*. From a Persian translation, made from the original, written in the Shanscrit language. London.

Harris, F. R. (1958). *Jamsetji Nusserwanji Tata: A chronicle of his life*. Bombay: Blackie and Son.

Harte, N. (1986). *The University of London 1836–1986: An illustrated history*. London/Atlantic Highlands: The Athlone Press.

Hearnshaw, F. J. C. (1929). *The centenary history of King's College, London, 1828–1928*. London: G G Harrap & Company.

Hunter, W. W. (1883). *Report of the Indian Education Commission*. Calcutta: Government of India.

Hunter, W. W. (1887). Address to the convocation of the Calcutta University delivered by the Hon'ble W.W Hunter, Vice Chancellor of the University.

Indian Statistical Institute: Fourteenth Annual Report: 1945–46. (1946). *Sankhya: The Indian Journal of Statistics, 8*, 87–102.

Indian Statistical Institute: Seventeenth Annual Report: 1948–49. (1950). *Sankhya: The Indian Journal of Statistics, 10*, 167–185.

Indian Statistical Institute: Eighteenth Annual Report: 1949–50. (1950). *Sankhya: The Indian Journal of Statistics, 10*, 283–300.

Indian Statistical Institute: Twentieth Annual Report: 1951–52. (1953). *Sankhya: The Indian Journal of Statistics, 12*, 380–412.

Indian Statistical Institute: Twentyfourth Annual Report: April 1955–March 1956. (1956). *Sankhya: The Indian Journal of Statistics, 17*, 251–304.

Japsers, K. (1959). *The idea of the university*. London: PeterOwen Limited.

Kopf, D. (1980). Review: Hermeneutics versus history, Reviewed work: Orientatlism by Edward W Said. *The Journal of Asian Studies, 39*, 495–506.

Lawson, P. (1993). *The East India Company: A history*. Essex: Longman Group UK Limited.
Lourdusamy, J. (2004). *Science and national consciousness in Bengal 1870–1930*. New Delhi: Orient Longman Private Limited.
Mahalanobis, P. (1950). Why statistics. *Sankhya: The Indian Journal of Statistics, 10*, 195–228.
Mahalanobis, P. (1953). Some observation on the process of growth of national income. *Sankhya: The Indian Journal of Statistics, 12*, 307–312.
Mahalanobis, P. (1955). The approach of operational research to planning in India. *Sankhya: The Indian Journal of Statistics, 16*, 3–130.
Mahalanobis, P. (1961). *Talks on planning*. Calcutta: Statistical Publishing Society.
Mansukhani, G. S. (1972). University autonomy. In *Crisis in Indian universities*. New Delhi: Oxford & IBH Publishing Co.
Marshman, J. (1827). *Brief memoir relative to the operations of the Serampore missionaries*. London: Parbury, Allen & Co.
Marx, K., & Engels, F. (1848). *Manifesto of the communist party*. Available at https://www.marxists.org/archive/marx/works/download/pdf/Manifesto.pdf
McCloskey, D. N. (2010). *Bourgeois dignity: Why economics can't explain the modern world*. Chicago/London: University of Chicago Press.
Mishra, G. (2014). Nehru and planning in India. *Mainstream, LII*.
Mokyr, J. (2009). *The englightened economy: An economic history of Britain 1700–1850*. New Haven/London: Yale University Press.
Mokyr, J. (2010). Entrepreneurship and the industrial revolution in Britain. In D. S. Landes, J. Mokyr, & W. J. Baumol (Eds.), *The invention of enterprise: Entrepreneurship from ancient Mesopotamia to modern times* (pp. 183–210). Princeton/Oxford: Princeton University Press.
Moore, R. (1965). The composition of "Wood"s education despatch. *The English Historical Review, 80*, 70–85.
Morris, H. (1904). *The life of Charles Grant sometime member of Parliament for Inverness-Shire and director of the East India Company*. London: John Murray.
North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge: Cambridge University Press.
Paranjape, H. (1964). *Jawaharlal Nehru and the Planning Commission*. New Delhi: The Indian Institute of Public Administration.
Parthasarathi, G. (Ed.). (1985). *Jawaharlal Nehru Letters to Chief Ministers 1947–1964*. New Delhi: Jawaharlal Nehru Memorial Fund, Government of India.
Pearson, K. (1892). *The New University for London: A guide to its history and a criticism of its defects*. London: T Fisher Unwin.

Phalkey, J. (n.d.). Not only smashing atoms: Meghnad Saha and nuclear physics in Calcutta, 1938–48. In U. Dasgupta (Ed.), *Science and modern India: An institutional history c. 1784–1947* (pp. 1057–1094). New Delhi: Pearson Longman.

Raleigh, T. (Ed.). (1906). *Lord Curzon in India: Being a selection from his speeches as Viceroy & Governor-general of India 1898–905.* London: Macmillan.

Ramanathan, M., & Subbarayappa, B. V. (2011). Indian Institute of Science: Its origin and growth, 1909–47. In U. Dasgupta (Ed.), *Science and modern India: An institutional history, c. 1784–1947.* New Delhi: Pearson Longman.

Rao, C. (1996). Mahalanobis era in statistics. In D. Bhattacharya (Ed.), *Science, society and planning: A centenary tribute to Professor Prasanta Chandra Mahalanobis* (pp. 17–18). Calcutta: Progressive Publishers.

Roy, T. (2002). Economic history and modern India: Redefining the link. *Journal of Economic Perspectives, 16*, 109–130.

Rudra, A. (1996). *Prasanta Chandra Mahalanobis: A biography.* Delhi: Oxford University Press.

Sadler, M. (1919). *Report of Calcutta University Commission, 1917–19 (No. Volume 1 Part 1 Chapters I–XIII), Analysis of present conditions.* Calcutta: Government of India.

Scott, F. (1959). *Wilhelm Von Humboldt and the idea of a university: Inaugural lecture of the professor of German delivered in the Applebey Lecture Theatre.* Durham: University of Durham.

Sebaly, K. P. (1985). The Tatas and university reform in India, 1898–1914. *History of Education, 14*, 117–136.

Sengupta, D. P. (2000). Sir Asutosh Mookerjee – Educationist, leader and institution-builder. *Current Science, 78*, 1566–1573.

Shairp, J. C. (1856). *The wants of the Scottish universities, and some of the remedies.* Edingburgh: Thomas Constable & Company.

Snow, C.P. (1959). The two cultures and the scientific revolution: the Rede lecture. Cambridge University Press.

Spear, P. (1938). Bentinck and education. *The Cambridge Historical Journal, 6*, 78–101.

Stokes, E. (1989). *The English utilitarians and India.* Delhi: Oxford University Press.

Symonds, R. (1986). *Oxford and empire-the last lost cause?* New York: St Martin's Press.

Thakurdas, P., Tata, J. R. D., Birla, G. D., Dalal, A., Ram, S., Lalbhai, K., Shroff, A. D., & Matthai, J. (1944). *A plan of economic development of India: Parts one and two.* Middlesex: Penguin Books.

The Government and Management of Indian Universities: Study Visit to Indian Universities. (1986). Conference of University Administrators, Witney.

The National Sample Survey: General Report No. 1. First Round. (1953). *Sankhya: The Indian Journal of Statistics, 13*, 47–214.

Tinker, H. (1997). *Viceroy: Curzon to Mountbatten*. New York: Oxford University Press.

University of Calcutta Convocation Addresses 1899–1906. (1914). The University of Calcutta.

Vincent-Lancrin, S. (2006). What is changing in academic research? Trends and futures scenarios. *European Journal of Education, 41*, 169–202.

Willson, F. M. (1995). *Our Minerva: The men and politicas of the University of London 1836–1858*. London/Atlantic Highlands: The Athlone Press.

Zachariah, K. (1991). *History of the Hooghly College 1836–1936*. In B. K. Samanta (Ed.). Calcutta: Bangabani Printers.

Index

S. Datta, *A History of the Indian University System*,
DOI 10.1057/978-1-137-53571-9