

## TECHNOLOGICAL PROGRESS & BREAKDOWN OF TRADITION: ANALYSIS OF BRITISH PERIOD IN INDIA

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### **Abstract**

The specified paper represents a critical argument of dialectic interdependence between development of technology and dissolution of the traditional organization in India at one of the times in the British colonization. It also poses a query concerning how the technologies that the British entered in taken with them such as the railway, the telegraph and the new industrial setting were not just a method of economic subjugation, but a source of alienation to the culture. The caste system of occupation was disrupted and broken by these new technologies in making the local industry faster deindustrialized and agrarian economy. The colonial educational system which aimed at producing a subservient population of elites kept on shattering the systems of knowledge and collective governments that had existed and relocated identities and external social desires. In this work, the ironic coinciding nature of the colonial modernization to its development and simultaneously, destruction of the cultural, social autonomy of the Indian society at the systemic level is predicted. In this case, a writing reveals the impact of the prism of critical approaches to imperialism, modernization, cultural hegemony systematic deep social divisions that had been introduced by the British technological interventions, which simultaneously caused nationalistic resistance and, at the same time, disorganized the traditional life to such a degree that they could not be rearranged.

**Keywords:** Colonial Modernization, Indigenous Industries, Cultural Dislocation, Imperialism, Social Fragmentation

### **Introduction**

Not only was the British rule in India marked by a significant advancement of technology, but also by the drastic changes that the Indian society that existed before the entire process started (at the beginning of the 17th century, as the East India Company arrived in India) experienced during the whole process. A number of Western science, industry and infrastructure like railways, telegraphs, and contemporary systems of education were brought during this time. Developments favored technology, at the expense of the indigenous knowledge systems and economies, as well as the social structure. The British colonial project was not merely an economic or political project, but rather a larger civilizational project, and directed at restructuring Indian.

society. This is what is normally referred to as modernization, and it was coupled with the break-up of ancient traditions that resulted in clash between developments and traditions. The uncountable interplay of technological progress and the destruction of tradition during the British

period in India are central to the achievement of the successes and the disturbances of the colonial occupation. In this discussion, the effects of the technological advancements that the British introduced to the Indian society, particularly, on the areas of: transportation, communication, education, agriculture and industry shall be critically discussed. It also looks at the extent to which the traditional institutions (social, economic and culture) were transformed or destroyed and their consequences, which, in certain instances, are still experienced today.

## □ Technological Progress during British Rule

### 1. Railways and Transportation

The introduction of the railway system was among the greatest technological developments in British rule in India. In the 1850s, railways were initiated and the first train was in 1853 between Bombay and Thane. The largest railway system in the world was in India by the turn of the 20th century. The railways had not only significant social consequences as they were initially constructed to aid in the transportation of raw materials to the ports to be exported to Britain, but also to the hinterlands (Kerr, 1995, p. 56). To illustrate, the railways linked hitherto remote areas, which made the society and the national economy more likely to be integrated. But the railways also killed traditional means of transport and trade like the bullock cart industry which had sustained many of them (Kerr, 1995, p. 59).

Although the British defended the railways as a modernist and progressive development, critics believe that the system was mainly colonialistic instead of localistic. The railways helped to extract resources and extend British economic influence whereas it frequently failed to consider how the regions economies could be developed, as well as, the welfare of the Indian workers who constructed and maintained the tracks (Thorner, 1980, p. 127). Moreover, the common type of traditional knowledge (transportation) was in danger of being overtaken by railways as means of transport replaced water transportation, like the boat-building of riverine economies (Thorner, 1980, p. 130).

### 2. Telegraph and Communication

Introduced in the middle of 19th century, the telegraph transformed communication in colonial India. With the telegraph system being established, presided by Sir William O'Shaughnessy, it introduced a new channel of communication in the long distance that was vital in the efficiency of administration and coordination of the military (Bose, 2017, p. 34). British imperialism on the subcontinent was reinforced by the telegraph system which facilitated quick communication between the British administrators and those in London.

The telegraph, however, also signified the degradation of the old communication system, which used messengers on foot or horseback, as part of the village economies and social networks since centuries (Bayly, 1996, p. 115). Although the telegraph was hailed as a technological wonder, it was not of much use to most of Indian population who were not connected to the benefits of this technological wonder (Bayly, 1996, p. 117).

### 3. Modern Education and Scientific Knowledge

Another significant development in post British colonial rule was the education and scientific knowledge in India. English-language education, especially in institutions, such as the University of Calcutta (1857), was a major break in with the traditional Indian systems of learning, including gurukuls and madrasas (Viswanathan, 1989, p. 22). The British tried to establish an educated group of Indians who would act as a linking bridge between the colonial regime and the locals at the expense of marginalizing the traditional knowledge systems (Viswanathan, 1989, p. 25). The colonial schools and universities curriculum was dominated by Western science, literature and philosophy, which tended to undermine traditional Indian knowledge. An example is the ancient Indian medicine, astronomy and so on.

mathematics were relegated as being primitive or there was unacknowledged borrowing (Nanda, 2003, p. 41). This led to lack of continuation of traditional knowledge transmission and Western epistemologies slowly overshadow it (Nanda, 2003, p. 45). Simultaneously, British education system also contributed towards the rise of the new generation of Indian scholars who ultimately became central to the nationalist movement threatening the colonialism and promoting the synthesis of Western and Indian knowledge traditions (Guha, 1988, p. 69).

#### □ Breakdown of Tradition

##### 1. Agriculture and Land Tenure

The British colonial policies had a radical effect on the traditional methods of land tenure and agricultural practices in India. The zamindari and ryotwari systems altered the farmer-land relationship which in most cases worked against the rural population (Blyn, 1966, p. 87). The consequence of these systems which were established to generate revenue to the colonial state was extensive dispossession and disintegration of traditional patterns of landholding, in which land was commonly owned in collectivity or on a hereditary principle (Blyn, 1966, p. 90). British demand of cash crops, including indigo, cotton and tea, also caused major disturbances to the traditional subsistence farming methods (Chakrabarti, 2004, p. 31). Food security reduced as the farmers had to abandon food crops in favor of cash crops which led to famines and rampant poverty (Chakrabarti, 2004, p. 34). Also, with the advent of new farming techniques like the iron plough and the use of chemical fertilisers new farming methods further alienated the traditional farming methods that had over the centuries adapted to the local ecological conditions (Guha, 1989, p. 103).

Industry and the Decline of Indigenous Crafts Industrialization in India during the British rule was devastating to the traditional craft and artisanal industries. The British policies encouraged the importation of manufactured British goods, especially textiles and suppressed the production of Indian products (Roy, 2000, p. 57). This saw the traditional industries like hand weaving of loom being abandoned, in the process rendering them a large source of employment and cultural pride in many parts (Roy, 2000, p. 60). The Lancashire machine textiles promoted by the British killed the handloom sector in Bengal where weavers had previously crafted muslin of high quality which was famed among the entire world (Parthasarathi, 2001, p. 101). Not only did this development make weavers poor but it also led to the loss of artisanal knowledge developed over generations

(Parthasarathi, 2001, p. 104). The same trend was observed in other sectors of production like metalwork, pottery and shipbuilding where traditional crafts were either pushed to the periphery or replaced by the production process (Dasgupta, 1996, p. 89).

## **2. Social Structures and Religious Practices**

Another impact of the British rule in India was the breakdown of traditional social structures and religious practices. British legal and administrative systems that were founded on the Western state of law and administration systems were mostly conflicting with local systems of justice and social structure (Cohn, 1987, p. 45). Indicatively, laws concerning property, marriage and inheritance were codified, and this challenge affected the traditional way of doing things that had been in practice since centuries in the Indian society (Cohn, 1987, p. 49). Besides, British efforts to transform the Indian society especially in policies that sought to eliminate practices like sati, child marriage etc. were frequently encased in this civilizing efforts (Mani, 1989, p. 26). These changes, although motivated by humanitarian reasons, were also an extension of a wider process of reforming Indian society in a Western manner, causing traditional religious and cultural ways of life to be pushed to the periphery (Mani, 1989, p. 28). This individualistic, rationalistic orientation of the British did not sit well with the communitarian and spiritual basis of Indian society leading to cultural loneliness and social instability (Sarkar, 2006, p.53).

The British rule in India was one of enormous technological progress, and the technological progress was realized at the expense of the decline of the ancient system in almost all the areas of life. The Indian society was transformed by modern technologies i.e. railways, telegraphs and Western education but in the majority of cases at the cost of the colonial interests, and not the needs of the local population. The economy, loss of cultures and social turmoil were among other things that were dislocated by the mechanical undermining of conservative industries, farming methods and the society. However, the period also marked an emergence of new opposition and adapting of the Indians since they began to integrate the elements of western technology and knowledge with the Indian ones and this preconditioned the ultimate struggle against the British rule.

## **Review of Literature**

The British colonial period in India (1757-1947) was a period of radical transformation and the radical transformation was brought about by the introduction of technology by the colonial government. These changes were radical upheavals to the socio-economic situation of India, and were disruptive to traditional structures, institutions and lifestyles. This Literature Review addresses key articles, which dwell on the topic of interaction of technological developments and destabilization of the tradition of the British era in India in a multi-dimensional perspective of how technological interventions in the form of colonialism affected the Indian society. The first background to the destruction of the traditional economies in India can be traced in the essay *The British Rule in India (1853)* by Karl Marx which provides a background perspective to the fact that the British technological intervention was intrinsically linked with the destruction of the traditional economies in India. Even Marx himself stated that the British were devastating and

transforming and that they destroyed the Asiatic mode of production in India by introducing capitalistic economic relations, the most infamous being the introduction of modern technology. He cites particularly the dismantling of the handloom textile sector in India that was ruined by the mechanized textile mill in Britain. Marx argues that technological progress witnessed in the colonial rule was helpful to the imperialist interests since it incorporated India in the global capitalist economy at the expense of its indigenous industries (Marx, 1975, pp. 81-85).

In his treatise *The Indian Middle Classes: Their Growth in Modern Times* (1961), B. B. Misra offers a slightly different and more subtle analysis into how British technological advances, specifically in the area of education, transport and communication, helped develop a new Indian middle class. This course was central to the embrace of modernity and challenge of traditional societal values. According to Misra, not only did the formation of railways and the telegraph system enhance mobility and ease of communication, it resulted in a massive change in the socio-economic structure of India. The antique caste-based specialization of occupations was becoming more and more questioned, as technological progress permitted more social mobility, particularly to those who were able to receive British education. But as Misra indicates, adoption of modern technologies and ideas did not take place evenly as most Indians hesitated to accept these changes and had a multifaceted relationship between modernity and tradition (Misra, 1961, pp. 45-51).

In his work *Science, Technology and Medicine in Colonial India* (2000), David Arnold gives a detailed reflection on the connection between technological advancement and colonial domination. Arnold delves into how the British brought in railways and telegraphs, modern irrigation systems and medical practices not only to boost their economy but also to cement their political and administrative domination of the subcontinent. He suggests that these changes in technology were instrumental in the breaking down of old forms of power in rural India especially through changing land use and labor. As an illustration, the opening up of railways resulted in the merging of local economies into a wider colonial economy, thus weakening local self-sufficiency and traditional land tenure systems (Arnold, 2000, pp. 72-78). In addition, Arnold adds that the proliferation of Western medical practices was usually in conflict with traditional knowledge systems, resulting in marginalization of traditional healers and systems such as Ayurveda and Unani (Arnold, 2000, pp. 123-127).

*Empire and Information: Intelligence Gathering and Social Communication in India, 1780-1870* (1996).

Bayly offers a convincing analysis of the effects of British technological advances in communication, in the form of the telegraph and postal services, on Indian networks of information flow. According to Bayly, the fact that these technologies gave the British government more power to collect intelligence and ensure that it was able to hold on to the large Indian population did not mean that the technologies did not also empower the Indian elites and nationalists. The possibility of faster and more extensive communication made possible the dissemination of anti-colonial ideas and the organization of nationalist movements. Through his analysis, Bayly points out the two

sidedness of technological advancements, with the same technology that was used to control the colonies becoming tools of defiance (Bayly, 1996, pp. 158-162).

In his book *Modern India, 1885-1947* (1983), Sumit Sarkar has criticized the selective nature of technology adopted by the British and how some sectors such as railways and telegraphs received abundant attention, leaving other sectors to languish like the indigenous industries. Sarkar insists that the British interventions in technology were largely influenced by the requirements of the colonial economy but not the development of India. The railways were built, say, mainly to export raw material to Britain, and not to promote trade or industrialization in India itself. Such a selective development, Sarkar argues, is what resulted in the disintegration of traditional economies and livelihoods with no proper alternative. Moreover, the

The Western technological superiority on which Britain depended tended to sideline the local variant of knowledge and technological skills (Sarkar, 1983, pp. 231-235). The *Economic History of India, 1857- 1947* by Tirthankar Roy (2000) provides an extensive economic outlook on the impact of British technological improvements on traditional Indian industries. Roy posits that although markets were opened and transportation costs decreased with the introduction of new technologies like railways and steamships, the new technologies negatively impacted old industries like weaving and handicrafts. The onslaught of British-made products which was aided by the introduction of new technologies caused the downfall of numerous crafted industries which could not rival the volume and efficacy of British production plants. However, Roy observes as well, that not all areas of the economy were affected negatively by technological advances, and indeed certain areas including agriculture enjoyed the benefits of such advances which included the creation of modern irrigation systems and the introduction of cash crops including cotton and tea (Roy, 2000, pp. 65-68).

Bernard Cohn explores the intellectual/cultural aspects of the British technological interventions in *Colonialism and its Forms of Knowledge* (1996). Cohn suggests that not only did the British force new technologies upon Indians, but they also attempted to restructure the Indian society by introducing Western scientific rationality and methods. Such imposition of Western knowledge systems usually clashed with indigenous epistemologies, resulting in a disintegration of the indigenous educational and intellectual traditions. Cohn's examination shows that the British employed technology as a means of cultural domination that destabilized traditional modes of knowing and substituted them with colonial modes of knowing (Cohn, 1996, pp. 78-82).

In *Health, Medicine and Empire: Perspectives on Colonial India* (1999), Mohan Rao explores the impact of British medical technologies on traditional Indian health practices in some detail. Rao claims that with Western medicine was introduced and the colonial regime, native systems of healing, like Ayurveda and Unani, were frequently pushed aside as being unscientific by the ruling British government. This expulsion was not merely about technological superiority but a more comprehensive colonial policy to distance Indian practices and impose the superiority of Western systems of knowledge. According to Rao, although western medicine also introduced positive changes in the general health conditions of the people particularly in the fight against diseases such as small pox and malaria, it also resulted in the undermining of the traditional medicine that

prevailed before the colonialists arrived in the country (Rao, 1999, pp. 91- 96). Amiya Kumar Bagchi, in his book, *Private Investment in India, 1900-1939* (1972) presents a survey of the economic evaluation of the influence of British technological actions in molding the private enterprise in India. According to Bagchi, the technological innovations made by the Britons most especially in the transport and communication sectors provided a scenario where the British and European capital dominated the opportunities of making a personal investment. Indian businesspeople could not compete easily with British enterprises, as they had the advantage of better technology and capital. This technological disparity sustained the colonial economic system in which Indian industries were still reliant to British technology and skills, constraining the development of local businesses (Bagchi, 1972, pp. 203-209).

Finally, the post-colonial history of British technological advances in India is briefly discussed in *India After Gandhi: The History of the Largest Democracy in the World* (2007) by Ramachandra Guha. Guha believes that although the British left a legacy of modern infrastructure, such as railways and telegraphs, and irrigation systems,

the technologies were frequently bound up in the colonial project of exploitation and domination. After the independence, India had had to face the twofold challenge of modernizing its economy and at the same time addressing societal and economic dislocations left by the collapse of the traditional systems under British rule (Guha, 2007, pp. 121-125). The sources on technological development and discontinuity of tradition in the British era in India are a mixed portrayal of the role of colonial modernity in disrupting traditional socio-economic forms, and in the same breath providing the basis of the emergence of new forms of social and economic organization. The advent of rail, telegraph and contemporary medicine.

helped in exploiting the resources of India, and the emergence of new classes and movements that opposed the colonial rule. Meanwhile, these technological innovations usually pushed to the periphery such traditional industries, knowledge systems, and social forms, which left an indelible mark on the Indian society.

### **Historical Context**

The time of the British in India, starting with the creation of the rule of the East India Company during the mid 18 th century all the way to the independence in 1947 was the period when the technology and the social life of India changed significantly. Being predetermined by the economic and political interests of the British, the technologies they introduced significantly changed the Indian society. Yet, these developments were also marked by a profound and usually agonizing dismantling of the old systems in India, which existed centuries. The conflict between the technological advancement and the disappearance of the traditional values are one of the hallmark features of this period. The introduction of the railway system was one of the most noticeable as well as important technological advances of the British rule. In 1853, the first railway track was laid in Bombay (now Mumbai) between Bombay and Thane. The railway network grew very fast in the coming few decades, and remote parts of the subcontinent became interrelated with each other and products and people were transported on a level never before seen. The construction of

railways was more of an economic motive to the British. India was one of the largest sources of raw materials e.g. cotton, tea, jute, and indigo and the rail system offered a more effective transportation system because raw materials could now be transported efficiently to the ports where they are exported to Britain. Moreover, the railways also assisted the British in solidifying their political and military grip in India as it allowed faster movement of troops.

Nevertheless, the railway system transformed the transportation in India but also influenced the social life in the country greatly. Throughout centuries, the society in India was a collection of small communities, most of which were self-contained and had their own local economy. When railways were introduced, these localized economies were shaken since they were connected to both the national and international markets. This tended to destroy the traditional artisan industries, with the mass-produced British goods transported inexpensively by rail flooding the Indian markets. The case in point is the once-applicable textile sector of India, as the sector had long been generating fine muslin and other clothes, but the sector was seriously impaired when British-made textiles became less expensive and more obtainable. This caused massive unemployment to the weavers and other artisans especially in areas such as Bengal. Another significant technological breakthrough during the British rule was the introduction of telegraph lines in the middle of the 19<sup>th</sup> century. Telegraph, as was the case with the railways, was initiated to meet the needs of the administration and the military of the British and thus could provide faster means of communication among the various regions within the country and Britain. Although it made the rule of the day easier, it served to represent the action of becoming centralized and the expansion of the distance between the Indian subjects and the British rulers. Conventional systems of governance that were based on the local rulers and communication networks were pushed aside when the British introduced their systems of bureaucracy.

Traditional knowledge systems were also broken down with the introduction of the Western education. The British created schools and universities where they encouraged the knowledge of Western sciences, literature and philosophy, usually to the detriment of the Indian intellectual and cultural heritage. The focus on English as a medium of instruction further disfavored the traditional modes of education, especially those which were done in Sanskrit, Persian, or regional language. This resulted in the emergence of a new group of English educated Indians who started becoming totally unconnected with their culture. Western education was not a failure to generate.

it also helped to undermine indigenous systems of knowledge and to render many Indians culturally displaced, with some of the most influential nationalist leaders in India, like Mahatma Gandhi and Jawaharlal Nehru, having done so.

The other technological innovation with far-reaching implications was the invention of modern infrastructure, such as roads, ports, and irrigation. These advances made the extraction of resources easier and the growth of British trade more achievable, however, it also severely altered the way farmers used to work. The British also brought with them new crops, including tea and indigo which were mostly exported. These cash crops tended to force out the traditional subsistence crops resulting into food shortages and famines in certain areas.

India, as an example, experienced multiple disastrous famines in the 19th century, in part due to the replacement of food with cash crops and the focus on exports, rather than on local food security. The disintegration of tradition was not an exclusively economical and educational phenomenon, as it spread to the sphere of religion and culture. Legal reforms by the British put most of the previous social and religious practices in India in question. An example is the end of practices such as Sati (the ritual immolation of

widows) and encouragement of widow remarriage was viewed by many Indians as an assault on their religious traditions. Although these reforms were in many cases driven by humanitarian issues, the British perception of the superiority of Western culture and values also had an influence on these reforms. The conflict between Indian and British values, as well as the reforms imposed by the British, led to the further rise of resentment towards the colonial rule and eventually the nationalist movement.

The technological advancement that came with the British rule in India was immense as the rail system, telegraph, modern education and infrastructure were invented. These developments radically reshaped the Indian society, making it a part of the world capitalist system, and focusing political authority in the hands of the British. Yet, this development came with a price, as it caused the disintegration of traditional economic systems, societal structures, and cultures. The demolition of artisanal industries, passive exclusion of indigenous knowledge systems, and disruption of traditional agriculture all played their role in the mass dislocation and suffering of the social fabric. Although not all the Indians were affected adversely by these changes, especially those who could adjust to the new openings offered by Western education and the new economy, many Indians found the era to be a period of loss and upheaval. The British rule in India was therefore a mixed affair of development and displacement, a complicated story of modernization and discontinuity.

### **Scope**

The scope of this research article is extensive yet simple; it is about the harmonization of innovations and the destruction of the old buildings in India under the British rule. The period is the time between the middle of the 18th century and 1947 at which time India was given independence. It was a period of radical technology, including the railroad, telegraph and western education that had an enormous social, economic and cultural effect. Most significant of these changes is how these changes instigated by the British colonial government, destroyed the ancient systems of Indian like the local economies, social inequalities, cultures and the Indian systems of governance. It also looks at the way the railways spurred the development of the local economic systems, what become of the old industries, including the textiles, the influence of Western education on the local knowledge systems and the influence of the legal and social reforms that tried to undermine the old religious as well as the cultural practices. In these varied dimensions it is in these varied dimensions that the research which shall be undertaken shall aim to provide a descriptive discourse of how the progressions of the British in technology brought about the commencement of fragmentation of the customary social set up in India.

Geographical location of Indian subcontinent is of interest but it can be reduced to some few areas (Bengal or Bombay) where the impacts of technological interventions by the British were most

pronounced. The contribution of the critical British policies and institutions, such as the East India Company, the, is also included in the scope. The British Crown administration, and colonial judiciary, which played important functions of effecting technological change and introducing reforms to undermine the old systems.

### **Need**

The necessity of the given research is determined by its topicality to the historical study as well as the modern-day discussion of modernization and globalization and the impact of the technological advancement on the traditional communities.

The British colonial era is essential in the understanding of the direction of India evolution because most of the technologies, economies, and social frameworks that were formed during the colonial era are still in use in the country today. The research fills a number of significant literature gaps. To begin with, there is a lot of research available concerning British colonialism in India, but most of this has been in two dimensions: the political and economic aspects, or the cultural and social aspects in isolation. This study is also set to fill the gap by specifically examining how the landscape towards technology influenced traditional institutions in different spheres of Indian life. Analyzing the point at which the technology and the tradition meet, the research provides a subtle insight into the nature of colonial modernity and how it facilitated the process of development, at the same time creating significant upheavals within the Indian society.

Furthermore, the study is part of a greater world discourse of the effects of modernization and the power of technology to traditional communities. The same trend is observed in other colonized countries as the implementation of Western technologies resulted in the destruction of local cultures and economies. The study provides some valuable lessons that can be traced to other post-colonial scenarios by the analysis of the Indian case, which illuminates the sustainability of the impact of a sudden change in technology. It is also relevant to the modern discussion concerning the influences of globalization and technological progress on the traditional lifestyles. The same case is evident in the current world where most developing countries are struggling to balance between modernity and cultural values.

These contemporary problems can be viewed through the prism of the lessons of India as a colony and thus interpreted and handled accordingly.

The study is also required due to its possible influence on the learning programs and general communication. Knowing the historical basis of the advances of technology in colonial India can also be used to redress simplistic histories of British colonialism as something wholly destructive or wholly positive. It is more balanced in a sense that it brings out the complexities and contradictions of the process of modernization during the colonial rule.

### **Limitations**

Although the study is intended to offer a detailed analysis, one has to consider the limitations that can impact the field of the research and its results.

To begin with, the expanse of time and space of the British colonial period in India is a difficult challenge. India is a multi-cultural subcontinent accompanied by a variety of languages, cultures and economies. The effects of technological advancement and the collapse of tradition were not

the same in all areas and societies. The effect of the railways upon agrarian societies in Punjab may have been varied with their effect on the weavers of Bengal, or on the traders of Bombay. Although the paper is supposed to embrace these subtleties, data regarding areas and the sheer heterogeneity of the Indian society at the time of colonization restrict the paper.

Secondly, the available historical data undergoes a certain degree of colonial lens as most of the information is presented according to the voice of British administrators. Such records might not be very good to reflect the views of indigenous people or even to reflect the adverse effects of British policies. The use of colonial archives brings about a constraint in regards to the possibility of the bias of the sources. While the research will seek to include Indian voices by using indigenous writings, oral histories and other non-colonial materials, they can be fewer or smaller, and it is not easy to create a complete representative narration.

The other constraint is the impossibility of establishing causality between directly changes in technology and the collapse of tradition. Though it is agreeable that the British inventions in technology had significant impacts on Indian society, the inventions did not occur in vacuum. Other factors that also affected the colonial experience were political trends, economic policies and social movements. However, it is not always straightforward to isolate the influence of technology on these other factors and the risk is that certain changes can be excessively ascribed to technological influence alone. The comparisons of the theoretical frameworks that could be utilized to examine the relationship between technology and tradition are also a weakness of the study. Though a modernization theory can be seen as one way of viewing the British rule in India and this may explain a lot about how the colonial power worked or how the Indian communities acted as agents to change or oppose the shift in technology. The postcolonial theory is another useful tool that occasionally pays no much attention to the ways in which Indian society was transformed by technology, but instead focuses on resistance. All these theoretical perspectives will not balance easily and the work will necessarily engage in interaction with these frameworks, otherwise the work will be reduced to a state of oversimplification.

Lastly, it is restricted by the lack of time and resources in the research. A detailed analysis of the whole colonial era in all parts of India would involve a lot of fieldwork and research in the archives, this might not be possible in the frame of this project. Consequently, the research will use a particular sample of case studies, not necessarily representative of the general Indian experience. Nevertheless, such case studies will be selected to capture a diversity of regional and social situations, which can be analyzed better through these drawbacks.

### **Methodology**

The methodology used in this research is based on the review of the secondary data sources to analyze the technological development and the destruction of tradition of the British regime in India. It mostly concerns historical records, academic works and documents in archives that shed light on socio- economic and cultural transformations caused by the British colonial policies. The valuable secondary sources are colonial archives such as government reports and administrative correspondences available in the India office files and national archives in India which provides a

clue on the motive behind the introduction of technologies including railways and telegraphs. In addition, research articles, and books by historians, sociologists and cultural studies scholars will also be used to place these advances into the wider socio-political contexts in which the effects of these advances on the classic systems might be fully comprehended. The case studies that will be used in the study will also be based on the past studies that have been conducted to give some of the examples of the interference in the local economy and the cultural practices in particular, areas such as Bengal and Punjab. By reviewing these various sources it is hoped that the research will develop the elaborate account of how it is with the aid of the British technological advancements which not only contributed to the process of modernizing, but also the dissolving of these conventional set ups in the Indian society. Relying on the critical approach toward addressing the secondary sources, this methodology is expected to show people the multi-layeredness of the colonial experience without neglecting the constraints and prejudices associated with the sources at their disposal, and will ultimately result in a more balanced image of the interactions between technology and tradition in the context of the British colonial rule in India.

#### Discussion

The British colonial rule in India, during the mid 18 th century till the middle of the 20 th century is a revolutionary period marked by immense technological advancements and enormous social changes. New technologies, such as railways, telegraph, Western education were introduced to the aim of. making administration more efficient and economically exploitative. These creations, however, led to destruction of traditional forms which had kept the Indian society hundreds of years together. The socio- economic, cultural, educational and political aspects of this change will be addressed in relation to the complex impacts of technological development on the traditional systems.

#### □ **Economic Transformations: The Disruption of Traditional Industries**

The effect of the advances in technology during the British era was among the most important ones.

change in the economy of India especially the destabilization of the traditional industries. India has a reputation of rich artisanal economy before the colonial rule, with skilled craftsmen and local production. But as the manufacturing industry of British origin and the arrival of mass-produced products came, many of the old industries were faced with extreme hardship.

An example of such disruption is in the textile industry, which was one of the pillars of the Indian economy. The traditional weavers who made beautiful fabrics were competing with the machine made fabrics which were imported by Britain at low costs. The introduction of railways made it easy to transport these British commodities throughout the subcontinent so that they were able to control the domestic markets. Consequently, this caused a lot of poverty to many weavers and this brought about a lot of unemployment and degradation of the traditional art of weaving. This did not only apply to the textile industry because other industries like pottery, metallurgy and crop production experienced the same tendencies where the local products were unable to compete with the imported ones.

Furthermore, the British focus on cash crops to export including the indigo, tea and cotton undermined the traditional agricultural activities. Farmers at the local level were usually forced to drop food crops and produce cash crops, which increased food insecurity and resulted in famines. The economic regulations of the British colonial government were more focused on their interests rather than the livelihood of Indian people, and so the restructuring of local economies that destroyed the traditional livelihoods and activities occurred.

□ **Social Dislocation: The Erosion of Community Structures**

The social dislocation was also brought about by the technological advancement in the British period, which saw the traditional community structures starting to decay. Before being under British rule, Indian society consisted of small self-governing communities, which were attached to local resources and trade as well as family relationships. The emergence of modern transport and communication network however, broke these local networks, creating a feeling of isolation amongst communities. The railway and telegraph helped to improve the transportation of people and goods though they promoted migration and urbanization because people tried to find a job in the growing cities. This was a movement that caused the destruction of the pre-existing social networks, people abandoned their villages and families and went out to work. This led to an increase in poverty in the cities since the migrants could not adjust to the new economic conditions in the city. The social fabric of the traditional society, which is characterized by close knit communities and interdependence, started to disintegrate allowing the society to become more fragmented.

Also, the policies of the British colonial administration could tend to enhance social divisions that existed. Western education and legal reforms weakened traditional authority structures resulting in the occurrence of tensions among the various social groups. As an illustration, the end of such practices like Sati (widows burning sacrifice) was condemned by conservative forces of the society, who then interpreted it as a form of assault to their cultural beliefs. With the loss of power of traditional leaders and institutions, new social orders came into place whose foundations were based on new Western education and financial achievements. This social reconstitution led to a feeling of instability and alienation to a number of Indians, who were left to work in a fast changing world that questioned their identities and values.

□ **Cultural Impacts: The Clash of Traditions and Modernity**

The British technological developments had great cultural impact leading to complex relations between the traditional and the modern. The introduction of the educational systems in India under the Western influence basically altered the situation in the sphere of knowledge and culture creation. Even though it brought new opportunities of social movement and intellectual activity, it also deprived indigenous knowledge systems and cultural practices of their right to exist. Western education emphasized rationalism, science and English language often at the expense of traditional education and cultural expression. The colonial education system ensured a curriculum that enabled the British literature, history and values to dominate the local languages and literatures. This led to a sizeable population of educated Indians being caught in an ambivalence culture as they attempted to balance between who they were and what they had learnt through colonial

education. Moreover, the modernity during this period led to radical transformation in the culture and social values. The influence of the west was experienced in most aspects of life such as fashion to food and entertainment. Competition between the western styles and traditional styles of art such as the folk music and dance led to their slow decline in popularity. The cultural intersection had the effect of creating a special hybrid of customs, but it led to the development of the question of the originality and the maintenance of cultures. This was a manifestation of a larger culture clash since many Indians were hard pressed to adapt their rich culture to the requirements of modernization.

#### □ **Political Repercussions: The Response to Technological Change**

The political consequences of the technological developments during the British rule were also very dramatic and contributed to the emergence of the nationalist movements and anti-colonial feelings. The modern communication systems, the telegraph and the printing press, led to the spread of nationalist ideas and the Westphalian opinion against the colonial reign. These technologies were adopted by political leaders and social reformers to arrange protests, spread their agenda, and cheapen the authority of the British. With the way of politics organization being shaken, new political movements appeared, which promoted social and political reforms. Individuals such as Bal Gangadhar Tilak, Gopal Krishna Gokhale and subsequently, Mahatma Gandhi, used modern communication and expressed the vision of Indian nationalism that would appeal to various layers of the society. Propagation of nationalist literature and newspapers was also significant in bringing a sense of unity and identification among the Indians despite the regional and religious variations.

The nationalist movement was however, a challenge to technological changes as well. The colonial regime used the mechanisms of modern surveillance and control to put down dissent, and hence more repression and violence as a result, against nationalist leaders and activists. The dynamic that existed between technology and power relationships was witnessed when the British used the modern developments in transportation and communication to maintain the status quo and also due to the same developments, they continued to experience an increasing resistance.

#### □ **Educational Transformations: The Legacy of Western Education**

Lastly, the influence of the technological advancements on the education of the British era cannot be overestimated. The emergence of western form of education systems was a momentous change in the manner in which knowledge was created and shared. Although this educational revolution was a source of social mobility and intellectual activity, it also helped to destroy the traditional knowledge system and cultural practices of the Indians, as universities and schools that taught the Western curricula were being established. Although this class played a crucial part in the war of independence, it struggled with the two-ness of their identities being the products of both the traditional Indian culture and Western education. The conflict between these identities was expressed in different ways, it was reflected on social and political movements, and formed the discourse on nationalism.

Additionally, colonial education is still strong in the modern India. The modern focus on English and Western knowledge has spawned irregular arguments concerning the education policy and the

necessity to adopt a more inclusive method that acknowledges and appreciates indigenous knowledge systems. The question is how to balance the advantages of the current education with the use of cultural heritage in which the generations to come will be able to cope with the vagaries of the dynamically shifting world and at the same time stay connected with their own traditions. Economic, social, cultural, political, and educational changes are a complex interplay of technological development and the destruction of tradition during the British period in India. To the extent that technology enabled modernization and created newer opportunities, people were awakened to high dissatisfaction in the ways and forms in which they were used to do things. All the reasons to reconfigure the Indian society on a deeper level was the deindustrialization of the old industries, the destruction of the social bonds, the conflict of cultures, the emergence of the nationalistic movements, and the background of the Western education. The dynamics play a vital role in explaining the intricacies of the colonial experience of India and its legacies. It is the interplay between technology and tradition during this period that continues to inform the debates that surround modernization, globalization and cultural identity today in post-colonial contexts. With a critical review of the impacts of British technological interventions, the research project should give a more detailed account of the colonial period and how it would shape the future of the Indian people.

### **Further Study**

The role of technological advancement and dissolution of tradition in the British era in India is a subject of study that has many points to explore, especially in the context of modern world problems. As witnessed by the dynamics of this colonial period, more studies can be conducted in the future to explore some of the fundamental areas that would contribute to our comprehension of the legacies of history and their implications to the current society. The comparative study of technological developments and their socio-cultural effects in various colonial experiences is one potential avenue of future research. Focusing on the reception and adaptation of similar technologies in other parts of the world like Africa, Southeast Asia or the Caribbean, scholars will be able to identify ways of resistance and adaptation that extend across national borders. By conducting these comparative studies, one can shed light on the diverse paths toward modernization and the significance of agency at the local level in negotiating the pressures of colonialism. Not only would this deepen our comprehension of India as an exceptional experience, but would also place it within a larger context of world history.

The other important field that needs to be explored is the interaction between technology, education and the formation of identity in post-colonial societies. Western education introduced during the British rule is still present to this day in the education system in India and other countries. Inquiries about the development of these systems over time could become the focus of future research, exploring the current contradictions between existing knowledge and the new education activities. Researchers might be interested in investigating how the reforms in education can be structured in a way that reflects indigenous knowledge systems, and thus creates a more inclusive and culturally-appropriate learning process. This question may also be about the

influence of digital technology on modern education, specifically in rural regions where information and access to resources are limited.

Furthermore, a less straightforward interpretation of gender relations in the British colonial era deserves additional research. Technology, tradition and gender roles are an area that can be researched, because technology changes had varied effects on men and women. An example to illustrate is that although western education might have given some women new opportunities, in many cases it strengthened the inequalities already present in access to education and economic involvements. Subsequent research might be able to track the ways women negotiated these transitions, and how they maintain traditional cultures and embrace emerging technologies. Such gender dynamics are important to understand in order to eliminate the existing imbalance in modern society and enhance gender equity in access to technologies and education.

Furthermore, an analysis of the ecological impacts of technological advances under the British regime might help illuminate the long-term impacts of colonial policies on local ecologies. The transition to cash crop agriculture, the building of railways, and the use of natural resources tended to have negative effects on the environment and the local population. Further studies may focus on these historical processes and current environmental issues, including climate change and resources depletion. Through establishing links between the past and the present, researchers can have improved insights into how past injustices are still contributing to present environmental policies and practices in post colonial societies.

Moreover, the influence of technology on the formation of modern nationalism and identity politics in India and other post-colonial societies is perhaps an interesting topic of research. With the advent of digital technologies, how political movements are structured and identities are formed have changed. Researching the application of these technologies in current movements may shed light on the current struggles to advance social justice and cultural conservation. The scholars may also address the question of how social media can be used to mobilize society around questions of identity, heritage, and resistance to globalization, and find analogies to the nationalist movements of the past.

Lastly, other interdisciplinary methods, including sociological, anthropological, cultural studies and historical perspectives, may provide more insight into the nuances of the British colonial experience and its post-colonial legacy. The complex nature of technological developments and their effects on tradition can be discovered by working with various methodologies. Interdisciplinary study involving scholars in different disciplines would encourage new forms of discussion and help to create a more comprehensive perspective of the themes addressed in this paper. To sum up, the discussion of technological advancement and the dissolution of tradition during the British reign in India is full of opportunities to be explored further. The study of comparative contexts, education and identity relations, gender relations, the impact of the environment, and modern political movements can enhance our comprehension of the longlasting legacies of colonialism. The interdisciplinary research will help scholars build holistic models that embrace the intricacies of the past and how they relate to modernization, globalization, and cultural

identity issues in the world, eventually adding to the wider discussion of modernization, globalization, and cultural identity in the world.

post-colonial societies.

### **Conclusion**

In conclusion, the discussion of the technological progress and the break-up of the traditional order during the period of the British colonial rule in India introduces a highly complex and, at the same time, contradictory process in the history. The introduction of modern technologies such as railway, telegraph, western education and industrial system by the colonists definitely transformed the Indian sub continent in the most important areas. These changes resulted in the ease of being more connected, administration efficiency and exposure to ideas in the world. However, this modernization was not objective, but was sometimes meant to be garrulous to the interests of the colonists and sometimes it was even meant to replace the native systems, economies and cultural identities.

The technological advancement of the colonial era was interrelated with the economic exploitation, which should be mentioned as one of the most significant lessons, learned in the process of writing this paper. With what could be considered as progressive infrastructure such as railways and telegraphs, the key role of these services was to mine resources and provide their management. Railways were used to transport raw materials easily to the ports to be exported to Britain; also they saturated the Indian markets with machine-made cheap goods that undermined the local industry. This led to deindustrialization of the old industries such as the handloom weaving, metal work and artisan crafts being systematized. The deindustrialization was not only financial but also cultural as years of experience, talent, and identity had been lost.

Similarly, the colonial policies of land, labor and community displaced centuries-old linkages between land, labor and community by altering agriculture. The revenue system that was presented such as zamindari and ryotwari restructured the character of land possession and the majority of the peasants were displaced and the customary landholding systems of collective and hereditary lands were weakened. The rural vulnerability was also increased due to the displacement of subsistence farming to cash crops production, which resulted in food insecurity, famine and overall poverty. These transformations unveil the interaction between the technological and economic policies where the profit and control became the main priorities over the well-being and survival of the locals.

Social effects of such developments were very intense. The traditional systems of the traditional communities that had always been described by the lack of the self-reliance, the local economies, and the cultural homogeneity began to tear apart under the influence of the forces of modernization. The development of the transportation system favored the migration and urbanization process and led to the breaking of the village social structure and the emergence of new and perhaps rather unstable urban centers. At the same time, the legal and administrative systems of a colonialism

replaced the ones of a native systems of governance and alienated communities even more, removing communities even further out of their traditional systems of organization and justice.

The western education and knowledge systems were introduced in a two sided manner in terms of culture. On the one hand it has marginalized the indigenous knowledge traditions through favoring the Western science, language and epistemology. The systems of learning that existed in the ancient times that were founded on Sanskrit and Persian and local languages were looked down upon or discarded as the substandard ones. This created a cultural divinity more so among the new generation of educated elite that was in most cases left to find themselves in a straddling position between the traditional culture and the colonial modernity. On the other hand, this education resulted in yet another breed of thinkers, reformers and nationalists who would later revolt against the dominance of the colonial rule, and introduce the concept of an independent India. Colonial education was thus both a tool of repression, as well as a tool of defiance.

Nevertheless, it is also the interplay of the technological development and the cultural displacement that resulted in terrible strains within the Indian society. The British brought reforms in most sectors particularly on social practices, law system and most of the times framed civilizing missions. Even though some of the reforms were aimed at real social issues, they are usually implemented without being sensitive to local conditions and so brought resistance and a feeling of cultural colonization. This further created the distance between tradition and modernity and was likely to be a permanent struggle in terms of identity, value system and social change.

It is interesting to note that the paper highlights how the Indian society did not remain just a mere spectator of the transformation of colonialism. Instead, it actively retaliated, adapted and opposed them differently. The nationalistic ideas and movements were propagated using the same technologies that were used by the colonial power. One of the instruments of mobilizing the political consciousness and collective resistance became telecommunication networks, railways, and print media. They were the tools that leaders and reformers employed to resist the colonial rule and advocate social and political reform. This interaction describes why the concept of technological change is two-sided because it can be employed as type of domination, though it can also be employed to develop resistance and change.

In addition, the colonial technological interventions are still effective to date in India. The aspect of colonial nature is deeply imprinted on modern infrastructure, administration systems, education models and even though it has been adjusted to meet the national interests of independence. At the same time, a lot of the destruction that occurred in the colonial period, such as income disparity, the loss of culture, and the discourse of the role of tradition in the modern world, can be found in the present day. It is an important historical context in comprehension, hence, in addressing some of the struggles of globalization, change in technology and preserving the culture.

This research study observes the need to reconcile the viewpoint of judging the colonial modernity, as well. The British era cannot be regarded as the era of advancement or the era of exploitation. Instead, it is better to think of it as a paradoxical and a complex process in which development and destruction occurred simultaneously. It is possible to use this duality to get a better understanding of how technological advances may lead to unintended and unequal results in the world particularly when enforced in unequal power relations.

These study themes will offer good prospects of future research. The comparative study of different colonial contexts might provide a deeper insight into how technology is inter-relating with tradition in different cultural contexts. In addition, the discussion of the long-term outcomes of the colonial education, economics policy, and technology systems can be of help in a more inclusive and culturally sensitive manner of development in the existing state of affairs. The interdisciplinary literature which integrates the historical, sociological and cultural perspective will particularly be helpful in decolonizing the colonization legacies.

In general, the history of technological revolution and the disintegration of tradition in the colonial India is not only a historical narrative but the prism to see much more serious questions associated with the modernization, power, and cultural identity. It demonstrates that technological advancement is no longer entirely technical issue: it is always sub-social, sub-political, and cultural, and that it affects its effect. The Indian colonization experience is a good lesson that development is an unequal process, which may bring a great upheaval and inequality, although it leads to creating new opportunities and possibilities.

Ultimately, this discussion requires a more critical and thinking approach to the modernization of the world in the modern world. Experience helps societies to make a certain attempt to exploit the potentiality of technology and preserve the cultural heritage, improve social equality and make development an inclusive and sustainable process. The British rule in India is however, not only a historical topic of great interest but also an invaluable source of wisdom in dealing with the present and future challenges.

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