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Advent, appropriation, and aesthetics of electric light in the princely state of Jammu and Kashmir, (1900–1920)

Baasit Abubakr[1] · **Saradindu Bhaduri**[1]

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Abstract
At the start of the twentieth century, Jammu and Kashmir witnessed an energy transition in its urban centres of Srinagar and Jammu, where electric lights entered the illumination mix along with the already existing oil lamps. They did not simply replace the oil-lit lamps as access to electric lighting was strictly determined on colonial, racial, and class lines. The electric lights also provided an apparatus of surveillance at night for the state and deepened the already existing divisions of urban–rural and backward–modern. In the first decade of the twentieth century, electricity was mostly limited to the palaces, residency offices, the silk factory, and the telegraph office. From 1910 onwards, there was a large-scale extension of electric lighting in the cities of Srinagar and Jammu, and even the reverse salients of financial cuts due to the first world war did not deter this electrical expansion. Colonial electrification in European colonies, like South Asia, has been seen to be driven by the biblical imperative of 'Let there be light', to literally spread electric light in colonies that they considered lingering in 'darkness'. These spectacles were symbolized by palaces and government offices shining with electric light, especially at night, whereas the areas of the natives were lingering in proverbial darkness. After elaborating on these overviews, this paper commences to problematize the aesthetics of light and darkness and study how electric light was being appropriated in the princely state of Jammu and Kashmir from 1900 to 1920.

Keywords Electrification · Electricity · Lighting · Appropriation · Aesthetics · Jammu and Kashmir

1 Introduction

At the cusp of the nineteenth and twentieth centuries in 1898, the British started the first generation of hydroelectricity in colonial South Asia after building the Sidrapong hydroelectric powerhouse near Darjeeling (Dickinson, 1918). This was followed by the Shivanasamudra project in 1902 and the Karteri Falls in 1904.[1] After these projects, the fourth hydropower plant in South Asia was constructed in Mohra near Varmul town in Jammu and Kashmir. The Mohra hydropower project was first conceptualized in 1904 and was inaugurated in 1908 by Maharaja Pratap Singh, the ruler of the Princely State. Hydroelectricity from Mohra electricity was utilized for dredging, its primary load lay somewhere else–the Silk Factory–in Srinagar, which housed the receiving station of electricity being transmitted from the Mohra powerhouse. In addition to this, Maharaja's Shergarhi palace also constituted the primary load.

By 1920, the streets of Srinagar were illuminated by electric lights, and elites in neighbouring areas also gained access to this modern way of life. Jammu City benefited from electricity in similar ways with the brightly lit palace and water works and the bustling commercial districts. The priorities of the rulers of the Dogra dynasty and the British concern for the selection of sites for electric lighting have been studied. The aesthetics of electric illuminations were also used by colonial powers in the colonies to showcase their technological modernity and were one of the interfaces of the natives with technological modernity.

[1] *Electric Power Development,* The Times of India, Mumbai. 24 Nov, 1938.

✉ Baasit Abubakr
baasitabubakr@gmail.com

[1] Centre for Studies in Science Policy, School of Social Sciences, Jawaharlal Nehru University, New Delhi, India

Existing historiography on electrical histories and electrification in South Asia has predominantly focused on the erstwhile presidencies or provinces that included colonial centres like Delhi (Coleman, 2017) or the erstwhile presidencies of Bengal (Chatterjee, 2018; Sarkar, 2020); Madras (Muraleedharan, 1991; Rao, 2007); and Bombay (Hasenróhl, 2019). The history of electricity development in the princely states has been largely overlooked. This paper attempts to ameliorate this historiographical shortcoming and inquire the ways in which electrical histories at the periphery of the British empire tell us about technological trajectories in colonial South Asia and study how electric light symbolized technological modernity which was bragged about by the colonial powers on one hand and being imposed upon the natives, except the few elites who were one of the first consumers of electricity.

2 Lit palaces, electric lights, and political rites

On 1 January 1903, Lord Curzon devised and presided over a grand ceremony which he called the "Coronation Durbar" in New Delhi that celebrated the coronation of Edward VII as the king and emperor of India. Tens of thousands of visitors included officials from the provinces as well as the rulers of the "princely states" including the ruler of Jammu and Kashmir, Maharaja Pratap Singh (Coleman, 2017). It was not just the British who used electric lights at this event to add to the splendour and brag about their technological modernity, but also the encampments of the rulers of the princely states including Pratap Singh, who were competing with each other to show off their status and gradations in the native hierarchy (Coleman, 2017). This event also provided an opportunity for the rulers of the princely states to outdo the colonial state in terms of splendour and spectacle and one of the camps that stood out was the one belonging to Maharaja Pratap Singh that emitted a total of 120,000 candlepower (Steer, 1903). These lights were powered by diesel generator sets that were originally purchased from Messers. Balmer Lawrie was formed by two Scots, George Stephen Balmer and Alexander Lawrie for installation of these lights in the Kashmir camp on the occasion of the "Delhi Coronation Darbar".[2] According to Gayatri Spivak (1999), the Indian kings of the princely states began to feel more important and 'royal' under the colonial influence and even they adopted the displays of royalty and splendid rituals on the European idea of a 'native King'.

In 1904, the stand-alone "diesel generator" of Maharaja Pratap Singh's encampment at the Delhi Coronation Darbar was transported from Delhi to Srinagar via Rawalpindi, and by 1904 there were electric light installations for the first time in Shergarhi palace of Maharaja Pratap Singh in Srinagar (the seat of the Dogra ruler) and the Residency (the office of the British Resident).[3] Although the invocation of the biblical adage "Let there be light" was part and parcel of the colonial vision of spreading the spectacle of the electric light to the dark colonies, it wasn't the homes of the natives but the enclaves of the Europeans in the colonies, sometimes including their racetracks that were electrified (Hasenrôhl, 2018). A similar situation was emergent in Kashmir, particularly in the first decade of the twentieth century, amidst a sea of darkness looming over native Kashmiri localities making do with their oil lamps and other sources, while at the same time, the Shergarhi Palace, the Silk Factory and a few European establishments shone bright with electric light.[4]

3 Mohra powerhouse and advent of large-scale hydroelectric generation

In 1904, after the successful installation of electric lights at the palace of Maharaja Pratap Singh and a few European establishments, the first plans for large-scale generation of hydroelectricity were made and a Canadian engineer working with the British Army's Royal Engineers, Major Joly de Lotbiniere was hired by the Maharaja to devise a plan to design and develop capabilities to harness hydroelectricity from river Jhelum (Homberger, 1910). In the same year, Lotbiniere completed the preliminary research and reconnaissance survey for the project and his suggestions were approved by Kashmir Durbar. According to the report submitted by De Lotbriniere, the site of the project was identified near Varmul, and it included the site of head works located at Baniar whereas the powerhouse and the forebay were to be located at Mohra (Homberger, 1910). It was also decided that construction works will commence in the spring of the following year that is 1905. According to S. Orling, the lack of coal in Jammu and Kashmir was one of the reasons for the introduction of hydroelectricity to meet the energy needs in the region (Orling, 1909). In July 1905, Major Lotbiniere departed from Kashmir towards Europe and America to arrange, preliminaries and contracts for the hydraulic and electrical equipment as well as for machinery required for the proposed dredging operations. Major

[2] Triennial Administration report of the Jammu and Kashmir State, 1902–04., Compiled by Dr. M. Surajbal, Secretary to the Chief Minister, Jammu and Kashmir State.

[3] Administration Report of the Jammu and Kashmir State for the year 1904–1905, Compiled by Amar Nath Dewan, Chief Minister Amar Nath Dewan, Jammu and Kashmir State.

[4] Triennial Administration report of the Jammu and Kashmir State, 1902–04., Compiled by Dr. M. Surajbal, Secretary.
to the Chief Minister, Jammu and Kashmir State.

H.A.D. Fraser, R.E., was appointed as engineer and agent in London to the Kashmir durbar in connection with the Jhelum power installation in June 1906 (Homberger, 1910). The construction work went on in full swing in the year 1907 until its completion in 1908. In September 1908, Maharaja Pratap Singh finally inaugurated the Mohra Hydroelectric Project, or the Jhelum Valley Electric Scheme, and was particularly proud to be in possession of capabilities to produce hydroelectricity since it was sought by all governments and countries.[5]

A decade later in 1918, the power generated from the Mohra powerhouse was supplied through two transmission lines that ran parallelly till Varmul, where one line ended to supply electric light to Varmul town and three floating substations for dredging operations in the Jhelum river (Tiku, 2020). The other line terminated at a substation in Srinagar, which was located inside the Silk Factory premises since the Silk Factory constituted the primary load. From there another line was run to Basant Bagh, for public lighting in parts of Srinagar city. Around halfway between Varmul and Srinagar, the transmission line was also tapped, from where a three-phase line was run for 14 miles to Gulmarg (Tiku, 2020). At the same time in 1918, Jammu hydroelectric installation also supplied electric power to Jammu city where it was primarily utilized in the Maharaja's palace, the waterworks, and the lighting of some city quarters. The Mohra power station was built as part of efforts to modernize silk manufacturing in the summer capital of Srinagar. The transmission line from Mohra hydropower project ended at the substation located inside the Srinagar silk factory itself, with the factory load being 1700 kilowatts and another transmission line ended at Basant Bagh where the telegraph office was located and the Maharaja's palace where it was used for lighting the palace and adjoining areas with a maximum load of 450 kilowatts (Dickinson, 1918).

4 Electrically lighting and powering Srinagar city

As has been discussed earlier, after the commissioning of the *Mohra* power project, Srinagar city already had electric lighting installations in the city's Shergarhi palace, Silk factory, Residency office, and the Basant Bagh area which housed the telegraph office. The second decade of the twentieth century was trailblazing as far as the expansion of the electrical system in Kashmir is concerned, witnessing an increase in the demand for electricity and the growth of electrification beyond the palace and government offices towards the rest of the city inhabited by the natives. This period was characterized by the establishment of dedicated electric supply schemes for the cities of Srinagar and Jammu. As the electrical system was gaining 'technological momentum', the areas with electricity were gradually expanding from the otherwise enclaves of the state-owned offices, palaces, and other European establishments to the areas inhabited by the natives as well. Due to an increase in the demand for electrical power, from 1911 onwards, the electric power supplied to silk factory was increased, and the electric light installation network was expanded.[6] Under this expansion, many private houses and establishments in the posh locality of 'Gupkar' were provided with electrical connections, and light installations were also extended to 'lower' parts of the city, inhabited by the natives of Jammu and Kashmir.[7]

In 1911 it was also decided that for the Delhi Durbar of 1911, the camp of the Maharaja of Kashmir and the Resident of Kashmir would be illuminated using electricity, and Messers Gupta and Bose were put in charge of electric lighting[8]. The arrangements were overseen by Colonel Lotbriniere who was by now the State Engineer and also received the honour of a C.S.I at the Delhi Durbar of 1911(ibid).[9] From the year 1913 to 1914, the number of lighting installations grew in Srinagar to 687 as on 31st March 1913 and the city lighting work was extended from Basant Bagh and Tanki Kadal up to the 3rd bridge i.e. Fateh Kadal on both sides of the river.[10] Between 1915 and 1916, there were extensions of lighting in Srinagar and funds were also sanctioned for the Baramulla (Varmul) electric light installations.[11] The power demand in Srinagar during this time was increasing gradually and it even generated incomes to the tune of Rs.5000 per month.[12] Given this rising demand for electric power in Srinagar city, two projects namely Capital Project No.1 and Capital Project No. 2 were undertaken.[13] As part of Capital

[5] "JHELUM IN HARNESS.", The Times of India, Sep 28, 1909. Retrieved from https://search.proquest.com

[6] Administration Report of the Jammu and Kashmir State for the year 1911–1912, Compiled by Chief Minister, Jammu and Kashmir State.

[7] Administration Report of the Jammu and Kashmir State for the year 1911–1912, Compiled by Chief Minister, Jammu and Kashmir State.

[8] Administration Report of the Jammu and Kashmir State for the year 1911–1912, Compiled by Chief Minister, Jammu and Kashmir State.

[9] Report on the Administration of the Jammu and Kashmir for Sambat Year 1970 (1913–1914), Dewan Bahadur Diwan Amar Nath, Chief Minister to His Highness Maharaja Sahib Bahadur, Jammu and Kashmir State.

[10] Report on the Administration of the Jammu and Kashmir for Sambat Year 1972 (1915–1916), by Raja Daljit Singh, Chief Minister to His Highness Maharaja Sahib Bahadur, Jammu and Kashmir State.

[11] Report on the Administration of the Jammu and Kashmir for Sambat Year 1972 (1915–1916), by Raja Daljit Singh, Chief Minister to His Highness Maharaja Sahib Bahadur, Jammu and Kashmir State.

[12] Report on the Public Works Department of the Jammu and Kashmir State for Sambat 1972 (1915–1916), by Lt. Col. H.A.D. Fraser, R.E, State Engineer, Kashmir Darbar.

[13] Report on the Public Works Department of the Jammu and Kashmir State for Sambat 1972 (1915–1916), by Lt. Col. H.A.D. Fraser, R.E, State Engineer, Kashmir Darbar.

Project No.1, a high–tension line at Chattabal for B. Sunder Das Mill, was sanctioned, along with a high-tension line to Mr.Mitchell's Factory.[14] Other works completed as part of this project included extensions to high–tension line from Aitagaji to a point near Gupkar, a branch distribution line from Sadi Kaz Zada towards Kaka Mohalla, and a distribution branch line in Tashawan and a distribution line towards Sardar Roop Singh house.[15] As part of Capital Project No.2, many extensions to the Srinagar city lighting were added.[16]

The background of World War I had immediate consequences on the financing of public works including electrification in Jammu and Kashmir and to invoke Thomas Hughes (1983), this represented a 'reverse salient'.[17] Therefore, from 1917 to 1918, to negotiate the reverse salient of financing due to World War I', there were proposals to overcome it by alternate financing. Eventually, it was decided to approach the–Dharmarth Committee–which according to Pintchman (2001) was the government's Department of religious affairs to manage and support Hinduism and had under its control numerous temples evolved from the Dharmarth Trust, an endowment of Maharaja Gulab Singh for religious charity to manage and support Hinduism. Between 1917 and 1918, the state's Public Works Budget Committee decided that the Dharmarth Committee was to be approached for a loan to finance the lighting Rainawari (Ruinwor*)* area of Srinagar and many villages that surrounded Srinagar such as Batmalu (Battemaalyun), Burzala (Barzol*)* and Aloocha Bagh (Aelche Baag*)* along with the towns of Pattan and Sopore (Sopar).[18] There were also provisions for the completion of Srinagar City Lighting Scheme Projects No.1 and No. 2 and the electrification of the silk factory in Srinagar.[19] Between the years 1919 and 1920, a three-phase transmission line from a transformer at Zaina Kadal (Zaeni Kadel*)* substation to Rainawari (Runiwor) substation, and many service lines were up and running in the city.[20] By the year 1920, the total number of electric lights in Srinagar city was 935 and the Srinagar Municipality claimed that electric lighting lamps had been extended to all main roads in the city and certain important bye-lanes as well.[21]

In this section, we notice electric lighting in the city of Srinagar was first associated with the notions of royalty and class, since electric lights were first used in the palace and government establishments, then in the areas of the elites. Srinagar city is a city on the banks of the Jhelum River, and among the bridges that adorn this river in this city, a bridge that was numbered as the 'first bridge' was located near Maharaja's palace. Eventually the areas near the second bridge, then the third bridge, and so on were electrified apart from the colonial establishments. The access to electric light in Srinagar in the twentieth century depended upon many racialized and classed factors apart from the interests of the colonial state that was in charge of electric lights.

5 Jammu city electric lighting and water works

Whereas the electrification of Srinagar city was attaining momentum at the start of the 1910s, the Jammu City Lighting Scheme was still under consideration.[22] A significant difference between electrification in Kashmir and Jammu was that, whereas in Kashmir power was primarily used for dredging apart from lighting, on the other hand in Jammu city the generating station's important load was the pumping station for the city's waterworks apart from lighting. Between 1912 and 1913 the generating station in Jammu, apart from powering the Palace and other government offices, supplied electric power to the pumping station as well as the Pratapbagh pump, and all the pumping throughout the year was carried out by electrical pumps.[23] From 1913 to 1914, electric lights were installed in the Prince of Wales College in Jammu,

[14] Report on the Public Works Department of the Jammu and Kashmir State for Sambat 1972 (1915–1916), by Lt. Col. H.A.D. Fraser, R.E, State Engineer, Kashmir Darbar.

[15] Report on the Public Works Department of the Jammu and Kashmir State for Sambat 1972 (1915–1916), by Lt.
Col. H.A.D. Fraser, R.E, State Engineer, Kashmir Darbar.

[16] Report on the Administration of the Jammu and Kashmir for Sambat Year 1971 (1914–1915), by Raja Daljit Singh, Cheif Minister to His Highness Maharaja Sahib Bahadur, Jammu and Kashmir State.

[17] Report of the Public Works Budget Committee to H.H. The Maharaja Sahib on the Public Works Budget Proposals for Sambat Year 1974 (1917–1918), as adopted at the Budget Discussion Meeting.

[18] Report of the Public Works Budget Committee to H.H. The Maharaja Sahib on the Public Works Budget Proposals for Sambat Year 1974 (1917–1918), as adopted at the Budget Discussion Meeting.

[19] Report on the Public Works Accounts of the Jammu and Kashmir State for Sambat Year 1976 (1919–1920), by G.C. Hart, Accountant General, Jammu and Kashmir State.

[20] Report on the Public Works Accounts of the Jammu and Kashmir State for Sambat Year 1976 (1919–1920), by G.C. Hart, Accountant general, Jammu and Kashmir State.

[21] Report on the Municipal Administration of Srinagar for the Sambat Year 1977 (1920–1921) by Pandit Anand Koul, President, Srinagar Municipality.

[22] Report on the Administration of the Jammu and Kashmir for Sambat Year 1969 (1912–1913), Dewan Bahadur Diwan Amar Nath, Chief Minister to His Highness Maharaja Sahib Bahadur, Jammu and Kashmir State.

[23] Report on the Administration of the Jammu and Kashmir for Sambat Year 1970 (1913–1914), Dewan Bahadur Diwan Amar Nath, Chief Minister to His Highness Maharaja Sahib Bahadur, Jammu and Kashmir State.

whereby the hostel, the college, and the Principal's house were connected to a transformer house that was built there.[24]

From 1914 to 1915, Jammu witnessed another landmark event concerning its electrical system when a start was made to provide electric light on the main road from the Railway Station to Mandi Mubarak and Residency.[25] This landmark event was undertaken on the occasion of the visit of the Viceroy to Jammu City.[26] In the next year from 1915 to 1916, the expansion of the electrical system in Jammu city continued to expand and the generating station supplied power throughout the year without any break.[27] During this time a power line from the powerhouse was connected to the waterworks and low-tension power mains and branches extending over a length of six miles were put up along the thoroughfares as well as many streets of Jammu town and the public began to consume electric power for lighting with as many as 24 private electric connections being made.[28] The expansion of electric lighting between 1918 and 1919 in Jammu city can be traced by the Electric Department receipts in the Public Works Accounts Report for the same year.[29] In the following year from 1919 to 1920, according to Public Works Accounts Report, the financial position of Jammu Electric was found to be satisfactory and the extension of city lighting took place along with the building of new service mains and workshop equipment.[30]

In this section, we infer that electric lights were introduced in Jammu city in the same order as Srinagar whereby palaces and government offices were electrified first. Unlike Srinagar which was supplied electricity by the *Mohra* powerhouse, Jammu was supplied electricity by a small-scale hydroelectric plant in Jammu. Among the primary loads in Jammu was the water works, where water pumps were operated by electric power. Although the pace of electrification in Jammu was very slow as compared to Srinagar, after the Viceroy's planned visit of 1914, the city witnessed a large-scale extension of electric lighting, but as far as the question of access to electric lighting was considered, just like Srinagar, it also depended upon many racialized and classed factors apart from the interests of the colonial state.

6 Aesthetics and the appropriation of the electric light

The replacement of "Shabby looking dim kerosene lamps by electric lights", has been mentioned in the title of this paper quoting Pandit Anand Koul, the president of Srinagar Municipality in 1920.[31] These phrases represent the politics of aesthetics conceptualized by Ranciere, where the 'dim' and 'shabby' kerosene lamps represented 'backwardness' and 'electric lights' represented progress (Hasenrohl, 2019; Ranicere, 2013). The phenomenon of exclusivity of electricity to certain European quarters as opposed to native areas has been common across the British empire as is evident in the works of Chokowero who has analyzed electrification and power politics in colonial Zimbabwe, the work of Rao and Lourdusamy, and Showers also attunes to this phenomenon (Chikowero, 2007; Rao & Lourdusamy, 2010; Showers, 2011).

The conquest of the night by electric light was important for colonial powers and autocratic rulers alike, for it facilitated production at night as well as helped at night in providing security to colonial establishments such as barracks, jails, government buildings, and monuments (Hasenróhl, 2018). The weaponization of electric light and electricity, in general, was historically evident throughout the British Empire, and we have seen the usage of electric fencing as well as giving electric shocks for military or policing purposes. Pandit Anand Koul, the President of Srinagar Municipality also reported in 1920 that due to the installation of electric lights at night, thefts and other crimes have come down.[32] Another aspect of electric lights as a moral technology has been discussed at length in the work of Leo Coleman, who while studying the electrification of early twentieth-century Delhi called electric lights a 'Moral Technology' (Coleman, 2017). Coleman, who looked at technology in the Dukheimian sense emphasized how technologies like electric lights moral technology" in a wider, more Durkheimian sense, emphasizing how technologies shaped social relationships and were, in turn, are shaped by the evaluation and cultivation of these relationships. According to a travelogue

[24] Report on the Administration of the Jammu and Kashmir for Sambat Year 1971 (1914–1915), by Raja Daljit Singh, Chief Minister to His Highness Maharaja Sahib Bahadur, Jammu and Kashmir State.

[25] Report on the Administration of the Jammu and Kashmir for Sambat Year 1971 (1914–1915), by Raja Daljit Singh, Chief Minister to His Highness Maharaja Sahib Bahadur, Jammu and Kashmir State.

[26] Report on the Administration of the Jammu and Kashmir for Sambat Year 1972 (1915–1916), by Raja Daljit Singh, Chief Minister to His Highness Maharaja Sahib Bahadur, Jammu and Kashmir State.

[27] Report on the Administration of the Jammu and Kashmir for Sambat Year 1972 (1915–1916), by Raja Daljit Singh, Chief Minister to His Highness Maharaja Sahib Bahadur, Jammu and Kashmir State.

[28] Report on the Public Works Accounts of the Jammu and Kashmir State for Sambat Year 1975 (1918–1919), by G.C. Hart, Accountant General, Jammu and Kashmir State.

[29] Report on the Public Works Accounts of the Jammu and Kashmir State for Sambat Year 1976 (1919–1920), by G.C. Hart, Accountant general, Jammu and Kashmir State.

[30] Report on the Public Works Accounts of the Jammu and Kashmir State for Sambat Year 1976 (1919–1920), by G.C. Hart, Accountant General, Jammu and Kashmir State.

[31] Report on the Municipal Administration of Srinagar for the Sambat Year 1977 (1920–1921) by Pandit Anand Koul, President, Srinagar Municipality.

[32] Report on the Municipal Administration of Srinagar for the Sambat Year 1977 (1920–1921) by Pandit Anand Koul, President, Srinagar Municipality.

by F.Ward Denys, who traveled to Kashmir in 1915 mentioned how a portion of the banks of Dal Lake in Srinagar was reserved for (house) boats fitted with electric lights, and those without electric lights were not allowed to stay there, and had to move on (Denys, 1915). Denys also writes about some visitors who were annoyed after their boat was forcefully moved from there for not having electric lights. Denys goes on to mention that if a boat without electric lights chose its anchorage in this area then it would be visited by the police and would also receive an official notice. Therefore we see electric lights were not just instrumental in changing the modes of illumination and they were not just part of an energy transition from oil to electricity, but they also introduced embedded techno-politics in the first two decades of the twentieth century in Jammu and Kashmir.

Another pattern that emerged in the process of electrification in the erstwhile British empire was that most areas inhabited by natives continued lingering in relative darkness or dim light, and on the other hand, even the places of leisure for the British and their spaces of aesthetic orientation were among the first to be electrified. This was evident in colonial South Asia as administrative buildings like the Viceroy's Lodge in Simla, governor mansions, or telegraph offices were amongst the first to be equipped with electric light and power (Hasenrohl, 2019). The implications of the orientalist perceptions of the British led to prioritizing certain areas with aesthetic and recreational value for them, and these areas were among the first to be provided with electricity. Electricity and electric lighting during this time was contingent in all matters upon the whims and fancies of the colonial state and it discriminated against the natives as far as questions of access to electricity and more specifically electric lighting is concerned. On the lines of the same pattern, among the places that were electrified on a priority basis include spaces of aesthetic orientation such as the Mughal Gardens in Kashmir, or the Ski Resort of Gulmarg. The colonial government and the state administration paid so much attention to aesthetic detail that they found it important to opt for underground electric cables in place of overhead wires on electric poles for fountains and motor pumps so as to not disturb the aesthetics of the Mughal Garden of Shalimar.[33] Similarly, at the Gulmarg Ski resort, even at the height of World War I, when there were fund cuts everywhere, the colonial officials made sure there was no shortage of funds for the Gulmarg Ski resort lighting scheme by approaching the Dharmarath trust.[34]

In her study on the Netherlands Indies, Susie Protschky discussed how electric lights and night illuminations comprised an important part of the symbolic politics of European colonial states, illustrating the 'enlightenment' and the modernity of their rule (Protschky, 2012). While discussing the appropriation of electric light, Zapico (2020) discusses what he calls the "strategic instrumentalization of electric lights" by the Spanish Catholic Church, a historical negotiation of religious communities with technological modernity. How the natives of Jammu and Kashmir negotiated technological modernity from their religious frameworks is an interesting subject of study but it is beyond the scope of this study. However, it provides us with an entry point to inquire into the rationale behind the implementation of lighting schemes and electric illuminations in Jammu and Kashmir.

7 Conclusion

The advent and the appropriation of electric light in Jammu and Kashmir was not a linear process and the instrumentalization of electric lights grew spatially from places of the powerful to places inhabited by the natives. It also reified the existing division between rural and urban, where only urban centres had electric lighting. With regards to the question of electric lighting, therefore we see a classed and racialized trickle-down of this technology towards the natives, except the few native elites. The energy transition from oil-lit lamps to electric lights required a well-oiled system of generation, transmission, distribution, and consumption that was managed by the various organs of the state. This transition was brought about both by political appropriation and the economic calculation of the state. Electric lighting also provided the state with an apparatus for surveillance at night and it was claimed that it also helped in reducing thefts and in maintaining law and order at night. In some cases, coercion from the state also led to the enforced installation of electric lights. While this energy transition towards electric lights represented an interface with technological modernity in the urban centres of Srinagar and Jammu on one hand and also introduced its embedded politics in the state and reified many existing class and racial divisions.

Data availability Not applicable.

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