CHAPTER 2

The Port of Calcutta in the Imperial Network of South and South-East Asia, 1870s–1950s

Kaustubh Mani Sengupta

> The row of four massive warehouses standing along the Hooghly riverfront on Strand Road, once statements of the city's power and prosperity, had over the years become symbols of utter neglect on the part of the Calcutta Port Trust, that owns them, and the city fathers as well.
>
> Strand Warehouse, the skeleton of which stands at the crossing of Brabourne Road, was the oldest, most ornate and aesthetically pleasing of the four. It was pushed to dereliction by several fires, the last and most devastating of which was on February 14. Deeper north, there are several other warehouses once owned by Bengali merchants, the most picturesque of which is the celebrated but disintegrating Putul Bari overlooking Sovabazar jetty.
>
> These four warehouses were constructed between 1901 and 1903, Calcutta's boom time, and were the city's moorings on the Hooghly. They were the gateway to the city for shippers and when they left, their vessels used to be loaded with shellac, linseed, tea and gunnies. (*The Telegraph,* 30 May 2010)

Notwithstanding this picture of doom and despair, the port at Calcutta is still functioning and remains an important node in the circuit of trade between the subcontinent and East and South-East Asia. Nevertheless,

K. M. Sengupta (✉)
Department of History, Bankura University, Bankura, India

B. Neilson et al. (eds.), *Logistical Asia*,
https://doi.org/10.1007/978-981-10-8333-4_2

there have been changes over the years in terms of its functioning as the port and in its relationship with the rest of the city. The celebrated warehouses on the Strand Road—the promenade on the eastern side of Hooghly, separating the city from the river—were once grand structures with an important mercantile function and they played a crucial role in augmenting the business of the port at Calcutta. In the imperial map of Britain, Calcutta held a central place in organizing the trade of the empire. The port—with its jetties, warehouses, wharves, railway, and tramway connections—facilitated maritime trade as well as overland trading activities.

From the latter part of the nineteenth century, industrial growth in India and a massive increase in import/export trade necessitated rapid development of port facilities in Calcutta. While sharing the major percentage of export trade in India during the early half of the twentieth century, the Calcutta port also emerged as a crucial entry-point for goods destined for the eastern and northern provinces of the subcontinent. Excellent transport routes, especially railways, acted as a catalyst for trading activities and, despite its unfavourable geographical features, the Calcutta port became the leading centre of trade and commerce for the colonial state in India. After the Calcutta Port Trust was officially established in 1870, it made rapid progress in building additional jetties and streamlining dock logistics and cargo handling.

In this chapter, I look at the development of the port facilities in Calcutta from the third quarter of the nineteenth century and examine the modes and mechanisms of the port facilities—the way goods were brought to the port, stored there, and then shipped or transported to other areas. Against the general political and economic backdrop of the times, I focus on two important aspects of the port's enterprise. Firstly, the role of warehouses in facilitating the trading activities of the port, the negotiations that took place among the various actors in constructing these places, and the problems faced in maintaining them. And, secondly, the crucial part played by the transport system in aiding the movement of goods to and from the port area. Both enterprises reveal how territory became contested, how various interest groups operated, and how political-economic considerations shaped the space of the city along the river front. I also note the contingencies adopted in planning for the port, the measures taken for safety and security, and the alterations or deviations in shaping the infrastructure.

Such a close reading of the modes and mechanisms of construction around the port provides a glimpse into the everyday logistics of establishing this complex of men, machines, and things. Humans appropriate

natural space to build new spatial elements—such as roads and canals, villages, towns, and markets—and, following Henri Lefebvre, as Ravi Ahuja argues:

> These spatial elements are not simply 'things' – they are *at once* locatable objects and spatial relations. Social spaces are constituted through a complex of such relations – spatial relations that are inseparably integrated with relations between social groups, with property relations in general and relations of land control in particular. (Ahuja 2009, 25)

The individual stories of the warehouses and the transport around the port reveal these negotiations and relations. But before going into the details of these activities, it is important to briefly outline the larger political and economic context for this chapter (Image 2.1).

A Short History of Calcutta Port

S. C. Stuart-Williams, Vice-Chairman and then Chairman of the Calcutta Port Commissioners in the 1920s, delineated the area under the Calcutta port system to an audience in London in the following manner:

> The jurisdiction of the Calcutta Port Commissioners is of two kinds, namely, that within the port proper, which now commences at Konnangar, eight miles above Calcutta, and terminates at the subsidiary oil port of Budge Budge, thirteen miles below Calcutta, and also the more limited jurisdiction over the headwaters of the river and Port Approaches, the former of which commences at Kalna, seventy miles above Calcutta, terminating at the upstream limit of the port proper, and the latter commencing at Budge Budge, and terminating at the Sandheads. The whole of their jurisdiction thus comprises nearly 200 miles of river proper, its headwaters and the estuary. (Stuart-Williams 1928, 891)

Stuart-Williams identifies a new phase in the development of the Calcutta port complex that took place from the 1880s. This was facilitated by the increase in import trade which brought about a corresponding increase in export trade as well as a greater demand for facilities to accommodate the steamers that were replacing sailing vessels. In this time, the capacity of the docks was stretched to 27 berths, of which 17 were devoted to the export trade. As Stuart-Williams notes, 'In this period the accommodation available may be said to have been definitely overtaken by

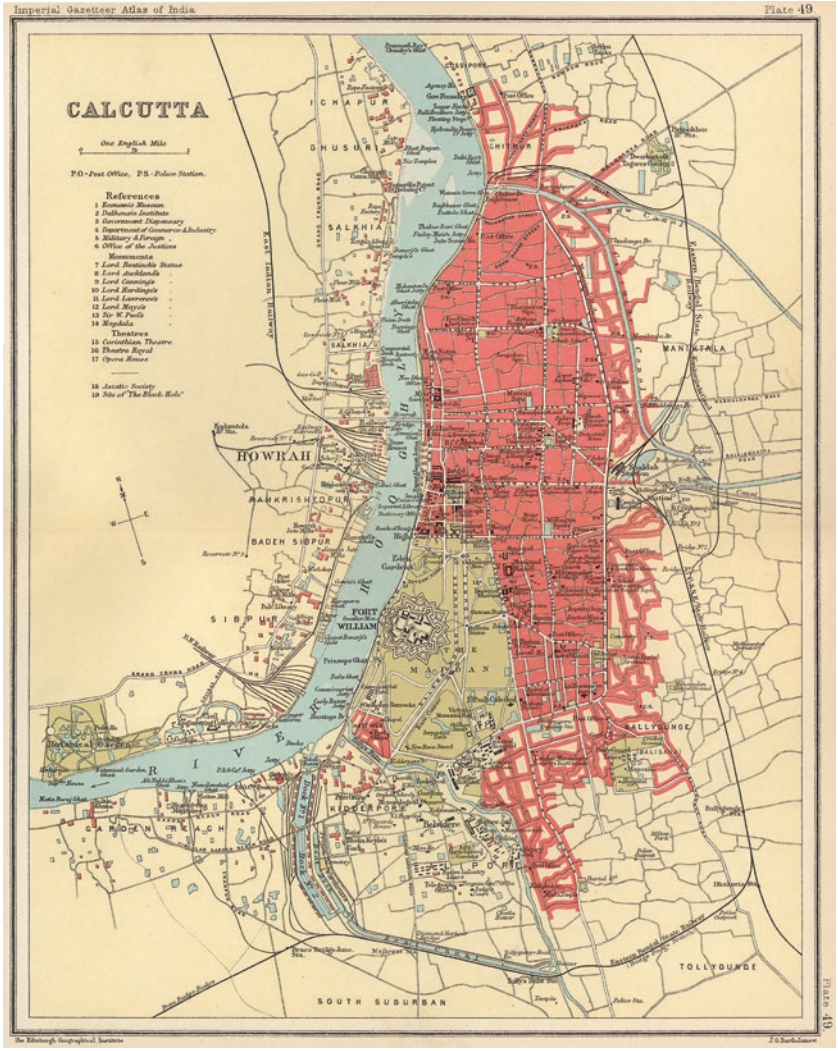


Image 2.1 Map of Calcutta from the *Imperial Gazetteer of India 1909*. Kidderpore is in the south where the river takes a westward turn. The warehouses and the *ghats* (landing places) dot the banks of the river on both sides, Calcutta on the east and Howrah on the west. (Image: Courtesy of the Digital South Asia Library, http://dsal.uchicago.edu)

the demands of the trade' (895). Many new additions to the dock complex were proposed, but the First World War halted the process because 'The war brought about a large reduction in the tonnage of vessels visiting the port, a huge drop in imports and the practical disappearance of the coal trade' (896). He further lamented that:

> A considerable portion of the plant of the port was commandeered for service in other ports of the Empire. The third suction dredger then under construction, a number of cranes, railway wagons, launches, and building material were all commandeered, and although the Trust received compensation, the net loss then incurred reached a very heavy sum, owing to the unprecedented and unexpected costs of replacement. (Stuart-Williams 1928, 896)

The post-war era put a lot of pressure on the Port Commissioners to replace the material taken during the war, but the cost of finance was almost 50–75 per cent higher than in the pre-war period. Up till 1921, few additions had been made to the Calcutta port and it took some time to restore it to its previous condition. As for trading activities, Nilmani Mukherjee in his history of the Calcutta port writes that in the post-war era, '[i]mprovement in trade conditions was painfully slow but the growth of trade was undisputed. In 1924–25 it was officially noted that the port was slowly regaining the old pre-war figures of general import traffic while it exceeded these figures in the case of general export' (Mukherjee 1968, 125). Also, a new phase of activity—including construction of four general berths at the Garden Reach area and of the King George's Dock—increased the accommodation facilities enormously. The new dock was opened in February 1929 and, despite a surge in trade during 1929–30, the Calcutta port was soon hit by the Depression, so that a considerable portion of the available accommodation remained unused during those years. Yet, although construction of additional berths was stalled, the tide seemed to turn during the mid-1930s when trade conditions improved and the Calcutta port benefitted from '[h]eavy imports of rice from Burma in 1934 and after, of steel and machinery and of Java sugar and Australian wheat in 1938–39 and the improvement in the shipment of coal, pig iron and manganese ore' (150). However, the Port Commissioners became concerned over the export of Indian sugar through the Calcutta port to other ports of

India because they knew this traffic had to compete with Java sugar. For this reason, they requested that the government keep port charges low for this sugar and the government obliged (NAI 1935, Marine Dept, Nos. 241–244). With the port authorities trying various methods to stabilize the trade situation, and it was important to augment the export trade, these steps took a further severe jolt with the outbreak of the Second World War. This time, the port of Calcutta was directly involved in the war effort of the Allied group, particularly after South-East Asia became a major theatre of the war. Then, considerable quantities of Army Stores occupied the berths at the docks and general trading activities were halted. Japanese air raids also proved detrimental from the point of view of labour, as some workers were killed and many deserted the dock area (Mukherjee 2014). This meant that the main problem for the Commissioners during the war-years was the slow clearance of goods that got accumulated in the berths and warehouses.

This ebb and flow of trading activities, connected with the general political and economic condition of India as a colony of the British Empire, shaped the ways in which the port complex developed in Calcutta. The infrastructural development of the port in this period gives us an idea of what Ned Rossiter (2016) has termed the 'proto form of logistical media' in the context of nineteenth-century development of telegraph and railways. These infrastructural programmes, which were initiated by the colonial states, Rossiter argues, 'produced the territorial imaginary of empire and economic system of imperialism' (150).

One of the crucial elements in any infrastructural growth project is the management of time and an efficient system is one where the amount of time spent in achieving a desired result is reduced. In the case of managing and functioning of the warehouses, as well as the building of new communication channels, the port authorities had to take into account the timely circulation of goods. Any study of the infrastructure thus, apart from interrogating the spatial aspect, also demands consideration of temporal dynamics. Therefore, in relation to the accommodation and transport facilities connected to the port, this chapter delineates the different mechanisms that were put in place to produce the space of the port. It includes micro-stories that provide a glimpse of the situation on the ground and give a sense of how grand strategies and big development projects were played out on the site.

Warehouses

By the mid-nineteenth century, a massive increase in trade indicated that more storage space was required in the port area of Calcutta. Between the 1850s and 1880s, the trade in jute, cotton, and tea increased rapidly and Calcutta became the main entry-point for imports of cotton piece goods. From the port, these were distributed throughout the provinces of Assam, Bengal, and parts of northern and central India (Bandyopadhyay 1995, 20). Due to the increase in tea exports during the 1870s, the Port Commissioners decided to build a tea warehouse on Strand Bank. Initially, however, the Bengal Chamber of Commerce criticized the step as it believed that the taking up of land on the Strand would interfere with private enterprises. Even so, while debate regarding the location of the warehouse ensued, the Commissioners went ahead with other issues associated with the building of the warehouse. In 1876, they asked all the mercantile firms who were involved in the tea trade to get back to them about designs for a suitable building and 22 firms responded positively to the entire scheme. A subcommittee, which was formed to oversee construction of the warehouse, met three times to discuss the building plans, the mode of working, and the scale of charges. A circular was issued with the proposed scale of charges, and the Commissioners asked the firms whether they would still be interested in the trade if the charges were levied in the warehouse. While the tea-brokers remained adverse to the entire scheme from the outset, the firms were more or less in favour of the project going ahead (Administration Report of Port Commissioners 1877, 31). After various contestations and negotiations, the tea warehouse at the Armenian Ghat, situated at the north of the Fort William along the Strand Road, was ultimately made available from 1887.

The Port Trust from its inception had to deal with the issue of private property and its acquisition. The facilitation of maritime activities involved taking up extensive swathes of land along the river banks and, with this, the port story slowly moves into the larger narrative of urban governance. Town and port authorities combined to formulate rules and regulations, and a brief survey of the legislative history regarding warehouses and allied issues offers insight into the ways in which the provision of storage space was conceived and put into practice.

Under Act XXV of 1836, the Governor of a Presidency could declare any port within his territory as a ‘warehousing port.’ The act made a distinction between ‘public’ and ‘private’ warehouses and stated that ‘the

Warehouse of the Custom House, together with such other Buildings as shall be directed by the Governor in Council, or Governor of the Presidency, or Settlement, shall be Public Warehouses for the reception of the Goods under the provisions of this Act.' It further ruled that 'every Public Warehouse shall be under the lock and key of the person whom the Governor, or Governor in Council of the Presidency, shall appoint to be responsible for all duties connected with the charge of Goods, their reception into, and delivery from the Warehouse' (Bengal and Agra Annual Guide 1841, 161). The Act issued orders to private warehouses that they had to obtain licences from the government to be able to operate in the business of the ports and, to have their licence granted, they had to follow a series of procedures and regulations (158–64). These addressed crucial issues that would determine the fate of large chunks of privately owned properties in the city and one of the most important of these was fire safety. The Licensed Warehouse and Fire Brigade Act 1893 provided for the levy of a special taxation for the maintenance of the Calcutta Fire Brigade. The taxation was in the form of licences for warehouses used for the storage of inflammable goods. The Corporation of Calcutta issued the licences for the warehouses, which was done after consulting the Commissioner of Police. The amount was determined as an annual fee not exceeding 10 per cent of the annual assessment (Report of Bengal Chamber of Commerce 1913, 55). The Act, however, divested the Calcutta Port Commissioners of all responsibility for the control and administration of the fire brigade. They were also not required to inspect and supervise the warehouses. With this, the jute department which was till then maintained as a branch of the licence department was abolished (Goode 2005 [1916], 282). Previously, when large premises in Darmahatta and Armenian Streets were burnt down in 1871, the Justices of Peace were forced to look into the condition of warehouses storing inflammable items like jute and cotton, and to maintain the fire brigade on a more efficient footing. Under the Jute Warehouse Act II 1872, the licensing of warehouses was made more stringent: regular magisterial inspection was ordered and the various municipalities of the town and suburbs were ordered to maintain an efficient fire brigade, with the cost of the fire brigade charged to the individual municipalities. Apart from the fees levied on the jute merchants, 'a rate was realized from the Fire Insurance Companies' which, as the municipal historian S. W. Goode mentions, was 'calculated upon the amount of premia received by them. The amount raised by these means was large enough to enable Government between 1872 and 1881 to expend more than 1¼ lakhs of rupees out of

the surplus of the Fire Brigade Fund on works of public improvement' (282–83). The Act V of 1879 moderated the severity of the assessments by including more items as taxable material. Under this Act, the Jute Warehouse Fund was established and the town and suburban commissioners could use this fund to maintain the fire brigade and pay all expenses for the inspection and supervision of the jute warehouses. In response, in 1890, the Bengal Chamber of Commerce protested against this Act, as it was seen that the burden fell almost entirely on one industry—jute. A committee was appointed to look into the problem and, finally, the Licensed Warehouse and Fire Brigade Act 1893 was passed where only half of the annual cost of maintaining the fire brigade was to be derived from the licence fees of the warehouses, the other half would come from municipal revenues (283).

Issues of safety and security measures undertaken in the warehouses were crucial for business. Often fire would destroy a large quantity of goods (*Times of India,* 20 December 1907; 21 October. 1931). Also, erosion in the river bank created cracks in the stone foundations as well as the walls of the jute and tea warehouses (*Times of India,* 2 March 1955). The successive acts regarding safety from fire repeatedly take note of the condition of the warehouses in the city. Through a series of regulations, the licence system and taxation, the town authorities tried to maintain the functioning of the warehouses and, as trading activities increased, port and town authorities had to make provisions for the safety and security of the warehouses, as well as keeping an eye on revenues.

With the formation of the Port Trust, many new warehouses were soon proposed. A jute warehouse was planned on a portion of Strand Bank land between Ahiritolla Ghat and the Mint in 1872. The advantages of this particular site were eloquently articulated by the Commissioners of the Trust to the justices of the town and the government. The port authorities wrote:

> The lands are separated from the town by the Strand Road, and are thus so isolated as to ensure comparative safety to the town buildings in the event of fire originating in the proposed warehouses. Having a river frontage, and on the land side the tramway, when [it] is to be constructed in connection with the whole municipal system and with the Eastern Bengal Railway, there is every facility for the easy conveyance to the site of all raw material brought to Calcutta either by the Eastern Bengal Railway or by river steamers and flats, and for removal of exports when prepared and ready for shipment by the tramway, which will be in direct communication with the jetties. (NAI 1873, Financial Dept, Nos 55–57)

The reasons were compelling enough and the plan was sanctioned by the government. A loan of Rs. 2 lakhs (Rs. 200,000) was granted to the Commissioners to construct the warehouse. We find here a description of a complex system of communication with water, roadways, tramlines, and the railways. While the road would cordon off the site from causing damage to the town in case of an accident, the place was also situated favourably to connect with 'the whole municipal system' and beyond. The Strand occupied a crucial location in the city, connecting as well as separating the river and the city, the worldwide business of empire, and the everyday rituals of the pious population in the holy river.

The interests of various groups came into conflict with each other in developing the port complex of Calcutta and the government had to regularly take into account the considerations of the business community before embarking on a port-related project. The government in Bengal had been contemplating the construction of wet-docks from the 1830s. Diamond Harbour, almost 50 kilometres south of Calcutta, was thought to be an ideal spot. In the 1880s, the scheme was given fresh impetus, but the Diamond Harbour wet-dock scheme was opposed by Calcutta's mercantile community. They argued that it would require additional investment on their part to transfer the current activities to another port and they wanted the government and the Port Trust to first look into all the suitable spots, in and around the Calcutta port, for additional space on which to build the wet-docks. Finally, their opposition proved vital in initiating the construction of the wet-docks at Kidderpore (Report on the Construction of Docks 1885, 199). But, as the Commissioners' report suggests, more pressing than the wet-docks was the need for additional storage space in the vicinity of the Calcutta port. A committee that was formed to look into the provision of a railway junction and a bridge over the Hooghly stated:

> As regards the convenience of the trade of Calcutta, there seems little to choose between any site along the canals and Circular Road, from Chitpore to Sealdah. The main business in warehousing … is carried on in the part of the city bordering onto the Hooghly between the Custom House and Chitpore, and all points on the line named would be nearly equidistant from the centre of this class of business.
>
> It is a fact sufficiently attested that the trade of Calcutta, as now conducted, requires that the mass of the goods for export (which form the most important part of the goods dealt with by the Railway Companies) shall be

> re-packed in Calcutta. This involves their delivery by cart at the warehouses of dealers. Probably the formation of wet docks, with warehouses attached, might hereafter, in some measure, change the habits of the trade, but meanwhile the requirements of the existing state of things must be met. Hence a large ordinary goods station must be formed, suitable for the present condition of business, quite irrespective of the question of docks. (58)

The committee appointed by the Commissioners in 1881 suggested that a new line of warehouses were needed to be constructed as soon as possible to ease the heavy pressure of increased goods in the port. Limited covered space was available in the port area, and that caused many problems for business. The report mentioned that 'the sheds become crowded with goods almost immediately after a ship commences her discharge; and when two ships occupy the berth one after the other, each bringing a large cargo, the work of sorting and delivery becomes most difficult, and is the cause of frequent complaints' (Administration Report of Port Commissioners for 1881–82, 1882, 22). New warehouses would, as the report noted, 'enable the Calcutta jetties to meet the demands of a growing trade, and compete on more equal terms with the appliances existing in other ports' (22). In February 1882, the first block of warehouses at No. 1 jetty was commenced. Another block was sanctioned by the government in 1882 at No. 3 jetty, which was entrusted to Messrs S. C. Mitter and Company (Administration Report of Port Commissioners for 1882–83, 1883, 3). But before giving the go-ahead, the government had its doubts. The British Indian Association and the municipality feared that the new warehouses would diminish the value of privately owned resting sheds in the city. The proposed project of the Commissioners seemed to give the impression that the new warehouses were being built for the purpose of renting them to the merchants and traders, opined the Lt-Governor. The Commissioners hastened to dispel any misconception and replied 'that the new warehouses were intended to supplement and relieve the existing jetty sheds, and that there was no intention to rent them out for business unconnected with the landing or shipment of goods through the jetties' (22). In the opinion of the Commissioners, regular importers or exporters would find it convenient 'to rent a certain space in the new warehouses for the storage of their goods pending dispatch or shipment instead of keeping them in the ordinary jetty sheds where examination and assortment of the goods was rendered difficult in consequence of the goods of different firms being mixed together' (22). The Commissioners

contended that this use of warehouses 'was a legitimate one and was in accordance with the practice in all large ports' (22).

The issue of private resting sheds was not the only obstacle. The Municipal Commissioners of the town raised an objection regarding building an elevated structure on the Strand Bank, following the instruction given by the Governor of Bengal in 1852 when this piece of land was acquired by the government for public utility. The Lt-Governor, however, thought that the warehouse was a necessary structure for the advancement of trade and was not antithetical to the use of that piece of land for the good of the general public. These objections and negotiations reveal the difficulties associated with the initial phase of the construction of warehouses in the port of Calcutta. Issues regarding private property, proper use of land, trade charges, backing from the mercantile firms, and the views of the Port Commissioners about modern port facilities jostled with each other in regard to the establishment of warehouses.

However, we must also keep in mind that often it was not just accommodation at the port that was an issue; rather, the dues charged on merchandise also became a crucial factor for trading activities. In 1885, various merchants, mill owners, and jute balers wrote a letter to the Lt-Governor of Bengal regarding the bill in the Bengal Council that gave the charge to the Port Commissioners to build docks at Kidderpore and to raise loans for that purpose. They thought that at present it was not necessary and they pointed out that 'the export trade of Calcutta has lately shown unmistakable signs of falling off, and that what is required at present is not so much additional docks and jetties, as that the charges of the Port should be decreased to enable Calcutta to hold its own against Bombay and Sindh' (NAI 1885b, Public Works Dept, Nos 1–4). The merchants noted that considerable additions were made at the Howrah terminus of the East Indian Railway which enhanced the prospects of export trade enormously and that increased accommodation in the port would only be needed if export trade grew. But with the proposed dues to be levied in the new dock, the merchants believed that, instead of facilitating the growth of trade, the dues would in effect render useless any additional space as the cost of export would increase enormously. The chief items of export at that point of time were jute, wheat, rice, gunny bags, and oilseeds. These might need further space in the docks but, if trade decreased due to the increased rate of customs, any new development at the port would be practically of no use. For instance, in the case of jute, the merchants mentioned that 'the present practice [was] for the raw fibre to be pressed into

bales, at different press houses on the river bank, and for it then to be loaded into cargo boats, and sent alongside the export ship, at a cost of from 10 annas to Re. 1 per ton' (NAI 1885b, Public Works Dept, Nos 1–4). They feared that this system would be under threat when the new dock with increased dues started functioning and argued that 'As the dock dues proposed to be levied on this article are Re. 1 per ton, it is obvious that so far from being a boon, the docks will increase the charges on this fibre.' Trade in gunnies and rice would also face similar problem. For these merchants and jute balers, a reduction in the charges was more desirable than any increase in facilities. In their opinion, the trade handled at the port did not warrant any extension at that point of time, rather 'the building of a dock at an enormous expense will be a great burden on the trade of Calcutta, because it has never been shown that a dock will be the means of either reducing charges or facilitating dispatch.'

Notwithstanding such objections from a section of the trading community, the port authorities always looked to acquire more space for various activities. In 1881, the Port Commissioners proposed to purchase the property belonging to the Calcutta Docking Company, which was situated on the Howrah foreshore, north of the Hooghly Bridge. The Government of India was also keen on the project as it needed a space to store materials for the railways. The project did not materialize as the company directors, on behalf of the shareholders, did not accept the amount of Rs. 450,000 offered by the Commissioners. The government also did not pursue the matter. But the Commissioners decided to take the matter up again due to the great inconvenience in carrying out the docking and repairs of several vessels belonging to the Port Trust. Apart from ships and vessels, there were large quantities of materials belonging to several departments that laid scattered in various locations of the port. The Commissioners asked the Calcutta Docking Company the price of the land and they were told they wanted Rs. 575,000. The Port Trust made an offer of Rs. 500,000 and the parties ultimately settled for Rs. 525,000 (NAI 1882, Dept of Commerce and Industry, Nos 1516–18).

In 1912, the government approved the building of a two-storey warehouse on the foreshore of river Hooghly, north of the Howrah Bridge, for the convenience of the inland vessels companies. A revision of the earlier plan was done and soon it was found that, with minor alteration in the alignment of the proposed warehouse, it could be built on a larger area. While the changed location would facilitate better connectivity with the railway lines, it would also mean an increase in the budget. By this time, however,

the port of Calcutta had gained immense importance in the imperial trade network and so the government did not hesitate to sanction the extra amount required for building the larger warehouse on the other side of the bank in Howrah (NAI 1912, Dept of Commerce and Industry, Nos 8–9).

Thereafter, trading activities at the port continued to increase, with some occasional setbacks during war or the Depression years. More jetties and warehouses were ordered, and the Port Commissioners continuously put pressure on the government to maintain adequate funds. In 1895, the average daily imported goods weighed around 1000 tons of which 300 tons were stored at the warehouses, with the rest being carted away to other parts. In times of high demand, this amount doubled (*Times of India*, 4 June 1895). In fact, a decade later, in 1906, the Secretary of the Bengal Chamber of Commerce mentioned that due to the increase of trade, there was hardly any space at the jetties for the imported goods. He noted that new jetties and a modern crane system were being constructed at the port, but these were not enough and new warehouses were needed. While at that time, a new tea warehouse was being constructed in Garden Reach which would help in opening up almost 15,000 square feet of space at the jetties for import trade. The Secretary wanted the port authorities to construct a new warehouse for import trade on Strand Road frontage (*Times of India,* 8 February 1906). This complaint of shortage of space in tea warehouses was a recurrent feature in the first half of the twentieth century (*Times of India,* 25 October 1939). After independence, the new government also faced this problem, and an ad hoc Committee was established in 1950 to look into the matter, although, at the time, it was reported that the Port Commissioners of Calcutta were constructing a four-storey permanent tea warehouse with floor-space of 140,000 square feet and a tea transit shed covering 20,000 square feet between the present tea transit sheds nos 1 and 2 and the sales tea warehouse (*Times of India*, 8 April 1950). Thus, over more than half a century, the demand for storage space to meet the ebb and flow of trade volume shaped the port complex in Calcutta, and the exigencies of trade, global warfare, domestic demand, and pressure from mercantile firms all combined to mould port activities and infrastructure.

An important aspect of the warehouses was the operations that took place inside them. A major concern, for example, was the proper measurement of weight of the goods and disputes often arose regarding the

method of weighing. For instance, in 1901, the Indian Tea Association sent a letter to the Port Commissioners urging them to broach the fact to the government that the English Customs Department should accept the weight of the tea ascertained by the Calcutta port authorities in their warehouses. The Port Commission agreed to this proposal and urged the government to look into the matter. They gave a detailed description of the process of weighing, arguing that there was very little chance of any error and no loss could possibly accrue to the English revenues if they accepted the weight as measured in Calcutta. The process described was as follows:

> The tea having being bulked in the patent machine which the Commissioners have erected, passes by gravity into the weigh hopper. From this hopper the required contents of each chest is weighed and discharged by gravity into the chest, the tare of which has been ascertained by separate weightment. The loose tea is then compressed into the chest by hydraulic power and the chest is closed and the gross weight taken, which is checked by the already ascertained tare and the weight of the tea put on to the chest. (NAI 1901, Finance and Commerce Dept, Nos 240–41)

The concern over weight and measures was persistent. In 1950, the ad hoc Committee formed to look into the problems of the tea trade noted that, in the tea warehouse, only 10 per cent of the product, randomly chosen, was inspected. This was deemed inadequate for ensuring the quality of the tea or the security of the packaging and 100 per cent inspection was recommended. For this, additional warehouse space was needed as that would help with the packaging and handling of tea chests as well as inspections (*Times of India,* 8 April 1950) (Image 2.2).

Transport

The Port Trust had initiated large-scale infrastructural development during the 1870s. One of the major areas of interest was to create a proper channel of transport facilities to move goods to and from the dock area. The railways played a crucial role in connecting Calcutta with other parts of the province and country, and Calcutta was served by the East India Railway, the Bengal-Nagpur Railways, and the Eastern Bengal Railways. The development of the railways was crucial in facilitating the port's

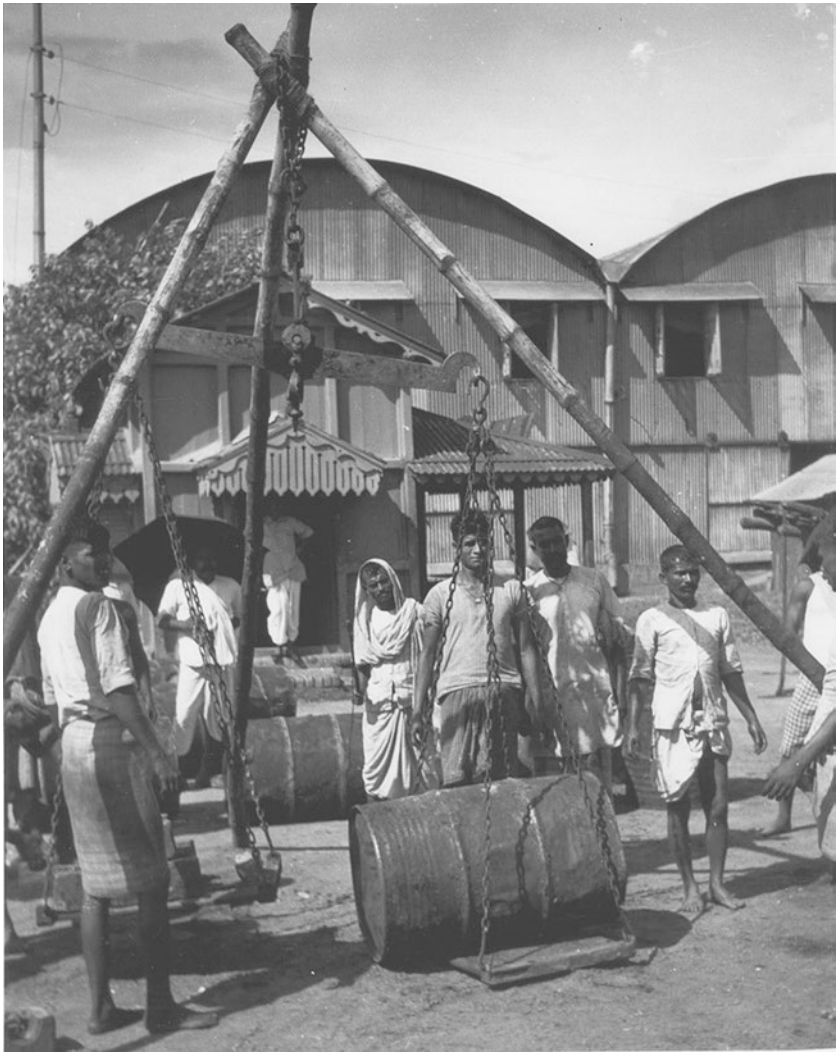


Image 2.2 Balance scale in a warehouse near Howrah, 1944. (Photograph by Glenn S. Hensley, held by University of Chicago Library, Southern Asia Department)

activities and the major terminals were at Sealdah (Eastern Bengal Railway) on the east of the river on Calcutta side, and the other was on the west at Howrah. In the 1880s, a bridge was proposed to be constructed over the Hooghly. The Lt-Governor of Bengal in 1883 noted that:

> The future developments of trade which the continual progress of railways encourages are incalculable; and when the bridge over the Hooghly is finished, and direct communications with Calcutta have been established from the producing districts of the North-Western Provinces, and the tracts of country served by the Northern Bengal, the Central Bengal, and the contemplated line from Seetarampore to the Central Provinces, with their connected branches, the space at present at the disposal of the Port Commissioners seems to me to be utterly inadequate. (Report on the Construction of Docks 1885, 158)

Networks of railroads promised brisk business for the Calcutta port. While major items like rice, coal, and jute were transported to other parts of the subcontinent from the port via the railways, in the immediate vicinity of the port, proper roads and carriers were unsuitable for the handling of a large bulk of cargo. To address this, the Port Trust began constructing a tramway along the Strand. The tramway work progressed rapidly with materials being imported from England. In their report of 1877, for instance, the Port Commissioners mentioned that the trust had been able to obtain a burning *ghat* (crematorium) site and section no. 17 of the new road between Ahiritolla and Ruth Ghats which enabled them to complete the work as far as the Armenian Ghat in the north. The trains ran daily bringing the cargo from the Eastern Railway to the freight sheds on the inland vessels wharves. The development of the tramways was directly linked to the massive increase in net cargo handling in the port and the successive stages of tramway construction gives us insight into the gradual extension of port activities and the way crucial links were established between the docks and the city, and in turn with the hinterland. Various new plans were proposed and some were followed while negotiations on ground forced a few changes and alterations. For instance, the Commissioners noted in 1877 that 'the traffic passes over the municipal line of railway from Sealdah to Bagh Bazar; but this is only a temporary arrangement, the Commissioners having … undertaken to construct a bridge across the entrance to the Chitpore Canal, and so carry their line of

tramway direct into the Eastern Bengal Railway goods terminus at Chitpore' (Administration Report of Port Commissioners for 1876–77, 1877, 3). To use the municipal line the port authorities had to enter into an agreement with the Town Commissioners and the terms of the agreement included the following:

1. That the Port Commissioners shall pay eight annas per wagon for every wagon that passes over the municipal line, either way, full or empty;
2. That the Port Commissioners shall have free use of the line for six hours daily, from 7 to 10 am in the morning and 3 to 6 pm in the afternoon;
3. That the Port Commissioners shall pay the cost of keeping that portion of the municipal line over which the trains run in repair;
4. That either the Town or Port Commissioners shall have the option of terminating the arrangement by giving one month's notice at the end of each year after the second year.
5. That this arrangement shall be binding on both parties for two years certain. (3)

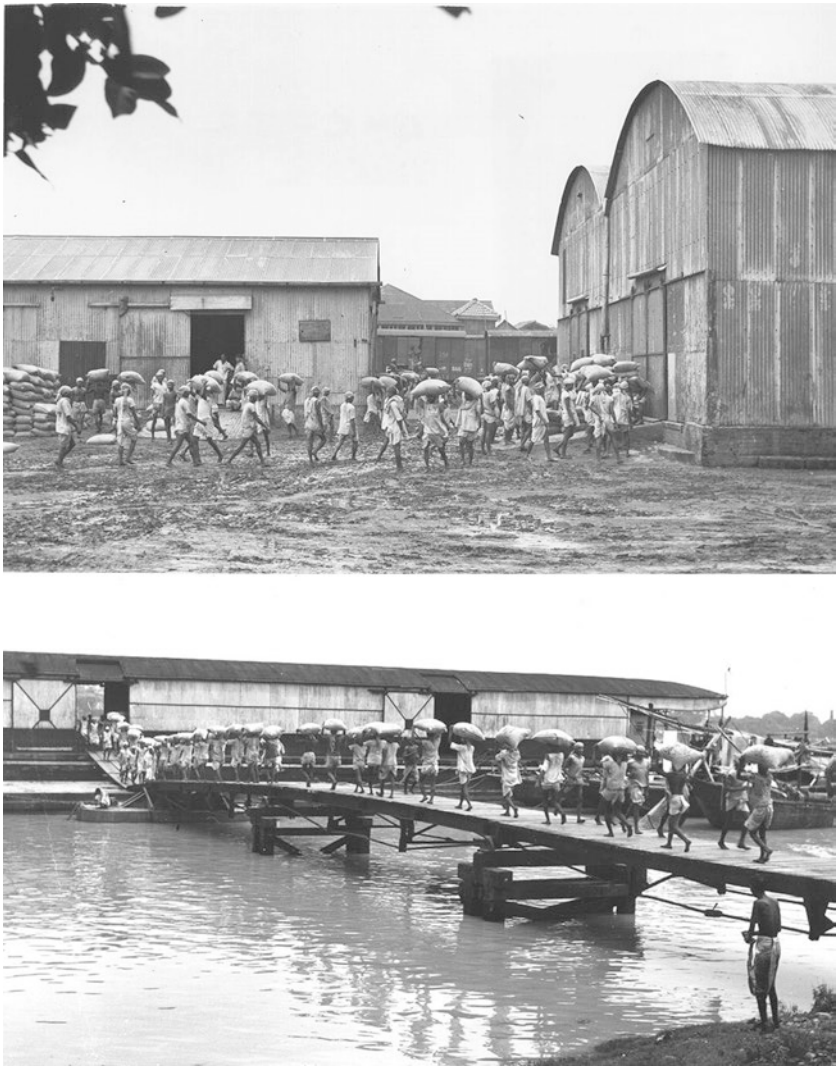
With this arrangement with the railways and the town authorities, the port tramway was inaugurated on 22 November 1876. But crucial works remained to be done. Originally, the intention of the trust was to carry the tramway line across the mouth of the Chitpore canal by building a moveable bridge. However, objections were raised as it was feared that it would interfere with the traffic on the canal, and the 'Government required that any bridge to be constructed in this position should have a clear headway of 16 feet above high water. To obtain the necessary incline for the approaches to such a bridge, an embankment would have to be made at the frontage of the Eastern Bengal Railway Company, which would shut out the Company from access to the river, and to this the Company would not have agreed' (3). Also, an elevated line would cost around Rs. 4.5 lakhs (Rs. 450,000) which was not possible to recover from the goods traffic on that line. The Commissioners decided to abandon that route as they thought that a fixed bridge was the only solution and a new bridge was designed, keeping in mind all the objections of the canal authorities while providing a passage for the trains at ordinary level, at a cost of about Rs. 90,000.

Apart from the bridge, a major problem also arose with the connection of the jetties with the inland wharves and the Eastern Bengal railway line. The proposed tramway was passing through the Armenian Ghat station, and the East Indian Railway Company did not agree to disman-

tle the station. A long-drawn negotiation ensued. The Strand tramway line was of immense importance to the port as well as for other departments, especially for the army headquarters at the Fort William. The line ran along the boundary of the fort on one side and thus provided an excellent opportunity for military stores to be carried by government wagons. The port authorities did not have any objection to such usage of the new line as long as the control of the traffic on the line was to rest with only one authority—the Port Trust. The Vice-Chairman of the Commissioners for making improvements in the port of Calcutta informed the Brigadier General in command of the Presidency District:

> There will be no objection to Government using its own wagons for the conveyance of stores, and moving such wagons either by steam or manual labour on the sidings leading into the Government premises, but there are serious objections against the main line being used by any other engines than those belonging to the Commissioners. It would be impossible to regulate the traffic over the main line if Government and the Commissioners both had the power to move wagons along it whenever they pleased, and would certainly lead to some serious accident. The haulage of wagons must … be done entirely by the Port Commissioners' engines in the same manner as the traffic is worked at present between Cossipore and the Jetties, where all wagons whether belonging to the Port Commissioners or to the Government State Railways are hauled by the Port Commissioners' engine. There is no objection to Government wagons being used to any extent, but the engines on the line must be under the authority of the Commissioners, or they could not be responsible for the safe working of the line. (NAI 1885a, Public Works Dept, Civil Works-Misc. Branch, Nos 1–3)

The tram lines soon became profitable. Between 1880–81 and 1882–83, there was an increase of almost Rs. 15,000 in tramway receipts (Banerjee, 1975, 41). Also, the increase in traffic necessitated opening up a third line (with already two lines for up and down traffic inaugurated in 1881) between Nimtollah Ghat and Ruthghat within a year of its functioning (40). But, we must remember, the final haul, from the wagons to the warehouse, was done by human labour and, as the following photographs (taken in 1944) show, these "human conveyor belts" were essential in placing the goods inside the warehouses (Images 2.3 and 2.4).



Images 2.3 and 2.4 'Human Conveyor Belt'. (Photograph by Glenn S. Hensley, held by University of Chicago Library, Southern Asia Department)

The development of the roads and tramways gives us a glimpse of the manner in which the port area was extended and integrated with the rest of the city, the difficulties that arose regarding land or finance, the negotiations that ensued between various branches of the government, and the general implications of ongoing expansion for the trading activities of the Calcutta port.

Coda

Let us end with the story of Burma rice during the First World War. Rice produced in Burma was exported to India through Calcutta port and railway wagons carried it to other parts of the country. This rice was usually cheaper than Indian rice and was consumed by a section of the poor. In 1917, during the war, the rice situation in Burma was facing a crisis. There was abundant production, but a few dealers held onto it in the hope of a rise in the price. In the meantime, wagons to supply coal from Calcutta were needed by the railways and it was proposed that, as there was no need to import Burma rice, the wagons should be used instead to transfer coal as the smooth operation of the railways was deemed to be 'a matter of Imperial importance' (NAI 1917, Dept of Revenue and Agriculture, No. 7). There had been good crops in India that season and so, apart from the difficulties with freights, the Indian authorities were not keen to accept more rice from Burma in light of its own abundant produce. This decision put a lot of stress on the rice industry in Burma. While the port authorities in Calcutta also said that they did not have enough storage space to keep the rice under their control, the Burmese government tried to point out that there was a demand for Burma rice in some of the upcountry provinces in India. They were ready to divert their export trade through any port other than Calcutta owing to the congestion and objection regarding storage facilities and transportation at the port. However, they were clear 'that such steps should be taken only in the last resort' (NAI 1917, Dept of Revenue and Agriculture, No. 7). In the end, to ease the situation in Burma, the home government in Britain agreed to import some quantity of rice.

In fact, congestion in the port area was raised as a recurrent feature which meant that, on occasion, some goods had to be prioritized and the problem with Burma rice arose again in 1919. The authorities knew that it was essential that sheds in the dock be kept clear for the arrival of the rice, and that the rice shipment should be regulated in keeping with the railway schedule. If not, there would be undue congestion in the docks

and the railways would not be able to carry off the consignment. In the case of sugar from Java and wheat from Australia, the preferred destination was always Calcutta port and, although the port authorities lacked the space to store this produce, they did not want to lose out on the customs revenue. The Port Commissioners requested the railway board to provide them with more warehouse space, as sometimes goods were stored by the port authorities in the sheds at Howrah belonging to the East Indian Railway, but on this occasion, the railway board refused to grant any more space to the port traffic. Ultimately, this meant that special arrangements had to be made to supply a large number of wagons to the port authority to clear the stock of sugar and rice so that fresh imports could arrive (NAI 1919, Dept of Commerce and Industry, No. 25, 1919).

The activity in the docks needed to be regulated and systematized so that a smooth functioning was possible. It was not only a question of storage or increased trade, equally important was the management of time, scheduling the movements, and the dispersal of the goods. The story of the Burma rice also reveals the way in which the Calcutta port was intricately linked with the imperial traffic of commerce and war. Timothy Mitchell (2014) has suggested that, 'infrastructures are both durable yet fragile, hidden but ever present, solidly embedded in the collective world yet open to speculation and uncertainty' (437). The fragility or uncertainty of infrastructures reveals their underlying architecture. The history of building, functioning, and maintenance of this infrastructure opens up ways of looking at how the life of this infrastructure sustains wider networks of trade, energy, or public health services.

This chapter has traced the development of port facilities in Calcutta with the increase in trade from the 1860s to the 1950s. It has studied two aspects of this—storage and transport—both of which are related to the massive increase in the bulk of cargo. Related to these individual systems (of warehousing and transport) was the production of the space of Calcutta port where different actors—the Port Commissioners, municipal authorities, imperial government, mercantile firms, or the railways—all staked a claim. Through an analysis of the infrastructural development of the warehouse and the port tramway, and the negotiations and contestations they entailed, I have tried to capture the evolution of their internal workings, management, and safety measures. These activities were intimately connected with the wider political and economic scenarios including global wars and depression. The port of Calcutta was a crucial node in the British imperial network and this chapter has also explored the bearing this had on the development of the port complex of Calcutta.

References

Administration Report of the Commissioners for Making Improvements in the Port of Calcutta, 1876–77 to 1882–83. Calcutta: Bengal Secretariat Press.

Ahuja, Ravi. 2009. *Pathways of Empire: Circulation, 'Public Works' and Social Space in Colonial Orissa (c. 1789–1914)*. Hyderabad: Orient Blackswan.

Banerjee, P. 1975. *Calcutta and its Hinterland*. Calcutta: Progressive Publishers.

Bandyopadhyay, A. 1995. 'Realms of Imperialism.' In *Port of Calcutta: 125 Years, 1870–1995*, *Commemorative Volume*, edited by S. C. Chakraborty. Calcutta: Calcutta Port Trust.

Bengal Chamber of Commerce. 1913. *Report of the Committee of the Bengal Chamber of Commerce for the year 1912.* Calcutta: Criterion Printing Works.

Goode, S. W. 2005 [1916]. *Municipal Calcutta: Its Institutions in their Origin and Growth*. Calcutta: Macmillan.

Mitchell, T. 2014. 'Introduction: Life of Infrastructure.' *Comparative Studies of South Asia, Africa and the Middle East* 34, no. 3: 437–9.

Mukherjee, J. 2014. 'Japan Attacks.' In *Calcutta: The Stormy Decades*, edited by T. Sarkar and S. Bandyopadhyay. New Delhi: Social Science Press, 93–120.

Mukherjee, Nilmani. 1968. *The Port of Calcutta: A Short History*. Calcutta: The Commissioners for the Port of Calcutta.

National Archives of India, New Delhi. 1935. Marine Department, Proceedings B, Nos 241–44, January 1935.

———. 1873. Financial Department Proceedings, Accounts 'A,' February 1873, Nos 55–57.

———. 1882. Department of Commerce and Industry, October 1882, Proceedings Nos 1516–18.

———. 1885a. Public Works Department, Civil Works-Miscellaneous Branch, Proceedings A, January 1885, Nos 1–3.

———. 1885b. Public Works Department, Miscellaneous, Proceedings, August 1885, Nos 1–4, Part B.

———. 1901. Finance and Commerce Department, Statistics and Commerce Branch, Proceedings, May 1901, Nos 240–41.

———. 1912. Department of Commerce and Industry, Proceedings B, December 1912, Nos 8–9.

———. 1917. Department of Revenue and Agriculture, Proceedings, April 1917, No. 76, Part B.

———. 1919. Department of Commerce and Industry, March 1919, No. 25.

Public Works Department. 1885. *Report Connected with the Project for the Construction of Docks at Calcutta*. Calcutta: Superintendent of Government Printing.

Rossiter, Ned. 2016. *Software, Infrastructure, Labor. A Media Theory of Logistical Nightmares*. New York and London: Routledge.

Stuart-Williams, S. C. 1928. 'The Port of Calcutta and its Post-War Development.' *Journal of the Royal Society of Arts* 76, no. 3948: 890–906.

The Bengal and Agra Annual Guide and Gazetteer for 1841, Vol. 1, Part II. Calcutta: William Ruston and Co.

The Telegraph. 2010. 'Strand, a Picture of Tragic Grandeur.' 29 May. Accessed 14 October 2017. https://www.telegraphindia.com/1100530/jsp/bengal/story_12503066.jsp

The Times of India. 1895. 'Shipping Accommodation in Calcutta.' 4 June,

———. 1906. 'Calcutta Import Trade: Increasing the Accommodation.' 8 February, 6.

———. 1907. 'Bio Jute Fire: Warehouses Destroyed.' 20 December, 8.

———. 1931. 'Jute Warehouse Ablaze: Several Lakhs Damage at Cossipore.' 21 October, 7.

———. 1939. 'Tea Warehouses of Calcutta: Question of Congestion.' 25 October, 9.

———. 1950. 'More Warehouse Space for Tea: 'Ad Hoc' Committee's Recommendation.' 8 April, 4.

———. 1955. 'Erosion Affects Warehouse: Contents Cleared.' 2 March, 7.