

Revisions - The telegraph from below: Race, labour and the Indo-European Telegraph

Department 1862-1927

‘I gave the signal, passed the word for double wages, and down came the Arabs like a volley of grape. Into the water they plunged, and at last seized the looked-for cable. They slipped – they floundered – but kept bravely at work; till a heavy thunderstorm came on, which seemed to shake them in their resolution.’¹

In describing the landing of the Indo-European telegraph cable at Faw in 1862, the future British Director of the Indo-European Telegraph Department (IETD), Frederic Goldsmid, offers a glimpse of the labourers building the network and British attitudes to such work. The collective energy of the ‘Arabs’ is compared to a ‘volley of grape’, mechanistically directed under the discharge of a European as they industriously haul the submarine cable to land until shaken by a thunderstorm. These oblique descriptions of subalterns and their centrality to telegraph infrastructure has been largely overlooked in existing historiography. Instead, historians have principally focused on the ‘high’ diplomatic politics of telegraph networks. This paper begins to redress this lacuna by looking at the IETD from ‘below’, analysing workers in the operations, maintenance, security, and expansion of the telegraph network. In doing so, the paper traces the emergence of an official racial taxonomy for organising signallers in the Department soon after the IETD was reorganised under the Director General of Telegraphs in India. Despite continuous attempts to control, discipline and shape employees through racialisation, the paper argues that these workers were able to influence conditions through collective and individual agency. In contrast to understanding imperial

telegraph networks simply a ‘tool of empire’, reading the IETD network from below reveals it as an inescapably hybrid enterprise, embedded in and reliant on local spaces, individuals, and communities.

The IETD was established in 1862 as a department of the Government of Bombay and transferred to the Government of India in 1871. Placed under the Public Works Department in India, the IETD remained an independent bureaucracy with its own internal hierarchy until February 1888 when it was placed under the Director General of Indian Telegraphs for a period of five years until April 1893. This period of reorganisation and consolidation saw the formalisation of the colonial practices of dividing workers by racial categories. The Department and network were divided into two sections run by the respective Directors of the Persian Gulf Section (PGS) with its headquarters in Karachi, and the Persian Section (PS) with its headquarters in Tehran. They were overseen from London by the Director-in-Chief who in turn answered to the Secretary of State for India. The PGS consisted of both landlines and submarine cables that connected its eastern terminal in Karachi with its western terminal at Faw (Fao), linking the telegraph networks of the Ottoman and British empires. The PS line connected Bushehr (Bushire) in the south to Tehran in the north.

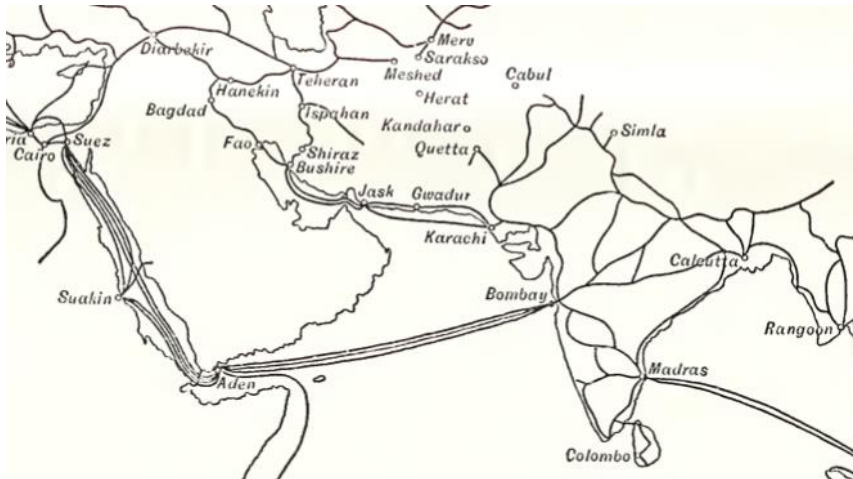


Figure 1 Sketch map of Anglo-Indian telegraphy lines. From Lieut.-Col Henry Wells, *Telegraphs and trade routes in Persia*, *Journal of the Royal Society of Arts* 42, no. 2139 (17 November 1893): 219.

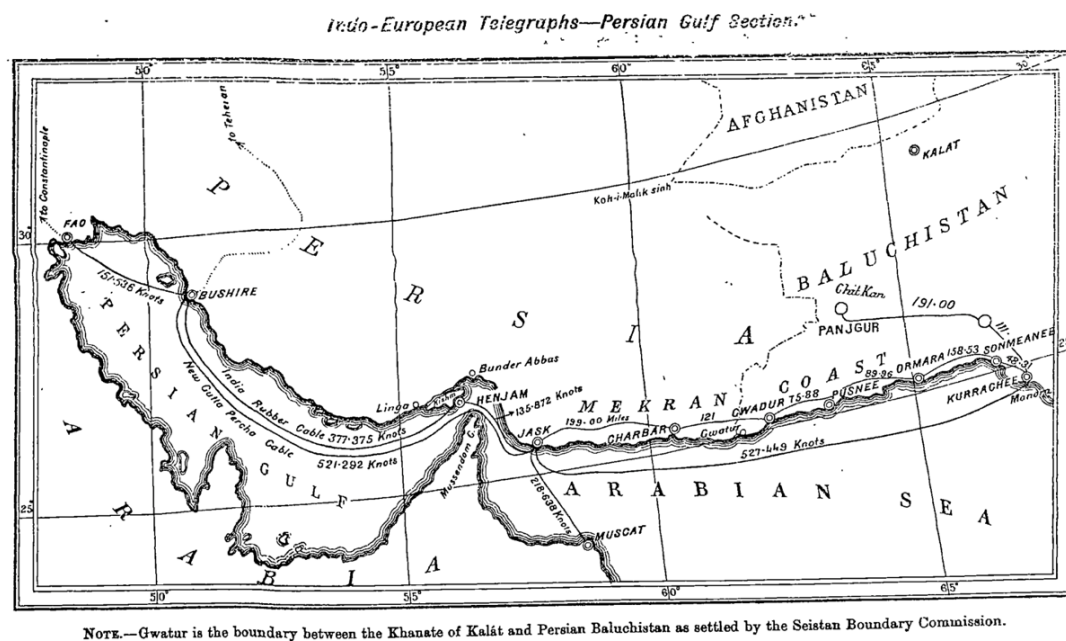


Figure 2. Indo-European Telegraphs-Persian Gulf Section (1907) IOR/V/13/272

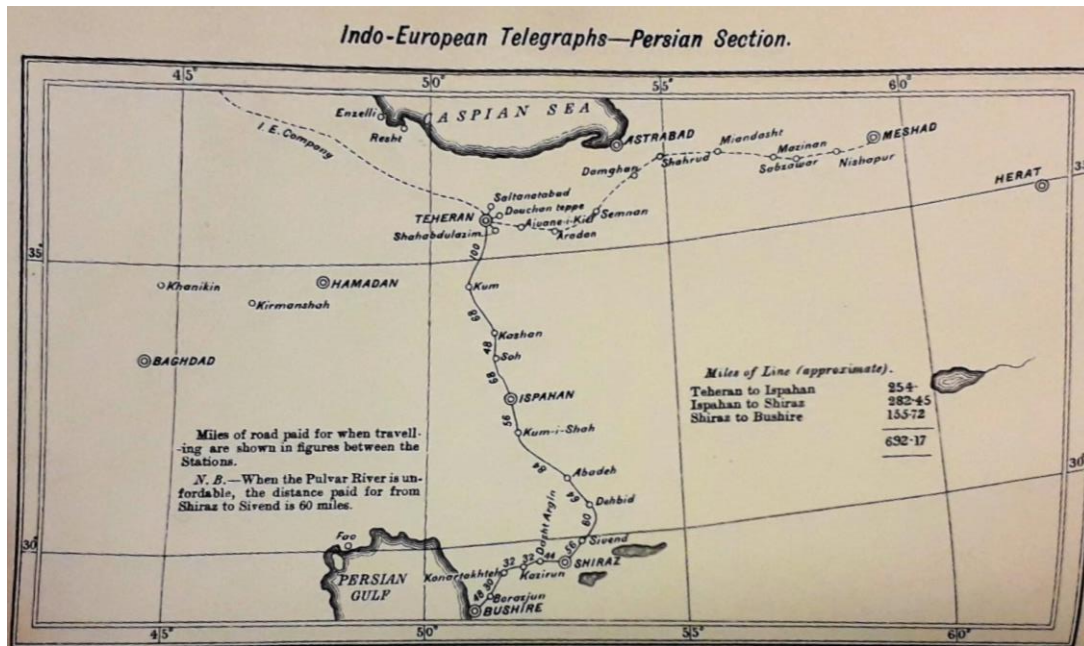


Figure 3. IOR/V/13/272 Civil List for India: Indo-European Telegraph Dept Persian Gulf & map; Persian Section, 1901-1908 (1901-1908)

The extensive reach of the network depended on the IETD tapping and mobilising local and colonial labour pools. In the IETD files of the Public Work Department, these workers are defined negatively as ‘non-Europeans’. The term reveals how workers were organised through ‘colonial difference’,² with the main schism formed between white technical workers and ‘non-European’ subalterns. In the archive, such workers are usually presented as appendages to ‘Europeans’ or human components to be organised and disciplined. While ‘non-Europeans’ as an analytic and historical category is fraught with problems around the boundaries of who is included and excluded, producing a satisfactory term that encompasses such broad and diverse communities and forms of work remains difficult. Exemplary of the diversity in the IETD are Armenian Christians, who were primarily from Iran and filled many of the

subordinate signalling positions in the IETD's PS.³ Likewise, Anglo-Indians/Eurasians and Goanese filled the lower signalling positions in the PGS. Across the expanding bureaucracy of British India in the late eighteenth and nineteenth century, South Asian Hindus, Muslims and Parsis of various classes served in specifically designated administrative, artisanal and technical roles.⁴ In the IETD, these communities adopted similar roles such as Parsi accountants in Karachi and Hindu and Muslim seafarers on the IETD's cabling ship, the *Patrick Stewart*. Arabs, Persians, Baluchis, Qashqais and many other mobile and sedentary communities across Iran and the Gulf were employed by the IETD to fill various labour intensive positions like lineguards, cleaners and labourers. While the British wished to clearly delineate boundaries between these groups, the traces of paperwork found in the archives of the IETD reveal the ambiguity involved in constructing and maintaining racialised subalterns. Questions over categorisation became particularly prevalent for 'mixed races' like Anglo-Indians, while Armenians, a diasporic and geographically dispersed Christian community, defied neat taxonomies. These workers came from a variety of social and political contexts and classes within their localities. Middle class Parsis operated the Traffic Office in Karachi, while Baluchi peasants patrolled the line in Makran. Although these communities did not form a coherent or self-conscious collective 'class', they were understood by British officials as a racial community of 'non-Europeans', a nomenclature that helped draw a sharp distinction against 'European' employees. Building on Ranajit Guha's conception of 'subaltern', the paper argues that despite collective racialisation and circumstances not of their own making, this diverse group attempted to forge their own history. This 'anti-historicist' category is used throughout the paper not as a means of intervening into the debates within Subaltern Studies, but

because it captures collective social, political, economic and ideological relations of subordination of one group to another while also encompassing the subordinate groups capacity for autonomy and resistance.⁵ Despite critiques of ‘subaltern’ as an all-embracing flattener of class difference,⁶ its capaciousness presents an opportunity to trace the entanglements within these communities and unpick the various social, economic and ideological pressures that helped produce these racial taxonomies.

Shifting perspective to subalterns in the IETD is important because it challenges assumptions about the revolutionary technological capacity of imperial telegraph networks. Despite subalterns dominating the lower rungs of the imperial telegraph departments, historians of telegraphy have failed to produce any significant accounts.⁷ Early histories of imperial telegraphy focussed on British colonial ‘pioneers’.⁸ Subsequent influential work by Daniel Headrick shifted attention from ‘pioneers’ to the imperial state but retained the ‘top-down’ perspective, conceptualising the telegraph as an exogenous ‘tool of empire’ and obscuring the agency of colonised and subaltern users and workers.⁹ Despite this, Headrick’s approach remains popular with historians and has spurred more recent studies on the contribution of telegraphy in shaping geopolitical and bureaucratic spaces and practices.¹⁰ Other historians have sought to expand analytical frames by analysing the dematerialization of information and transnational commercial and media connections.¹¹ While these studies offer alternative perspectives, they typically retain a top-down Eurocentric approach that overlooks the centrality of subaltern labour. This continued omission has contributed to the conceptualisation of imperial telegraphy through the terms of its propaganda: as a Victorian proto-internet and ethereal ‘high’ technology that connected disparate European communities and spaces and strengthened imperial power.¹²

Yet, even during its zenith, imperial telegraphy had its critics. Most notably, Mahatma Gandhi, who during his time as publisher of *Indian Opinion* in Durban, and later in *Hind Swaraj*, argued that expanding telegraph networks were both the transmitter and symptom of the ills of ‘modern civilization’.¹³ Durban during this period was a bustling port city of ‘enforced cosmopolitanism’ and one of many conduits of communication and circulation of news and peoples across the Indian Ocean.¹⁴ While not directly connected to Durban or other Indian Ocean ports, the IETD and its workers were one part of an expansive network of imperial infrastructure connecting India to its frontiers. While it is beyond the scope of this paper to address in detail the circulations these networks facilitated, it’s important to acknowledge the IETD as part of such circulations across the maritime and coastal frontiers of India. Alongside colonial officials and members of the public, writers, activists, and critics such as Gandhi operated with and against these technologies of circulation.

To investigate the centrality of subaltern workers to the IETD, this paper follows the labour that the IETD depended on across four domains: operations, maintenance, security, and expansion. Each section looks at the role subalterns played in the network, excavating micro-histories of individual workers while surveying the emergence of racialised trends and forms of labour control across the Department. The paper builds on a sizable body of work of English, global and infrastructural ‘history from below’. In doing so, the paper ties local micro-histories of subaltern workers to the telegraph, an infrastructure often conceptualised as a non-local large technical system. This paper moves beyond a recuperative history of telegraph subalterns by demonstrating resistance that shaped working conditions and the network more broadly, despite the emergence and adaptation of official taxonomies of racialised labour.

The paper has been divided into three sections to reflect the main contributions of subalterns. The first section analyses the importance of Armenian and Anglo-Indian communities as operators of the telegraph and as intermediaries and brokers. The section argues that while the agency of Armenian and Anglo-Indian workers was bounded by imperial hierarchies and racist assumptions, it was their demonstrable force from below that helped shape the IETD. Section two explores the role played by subaltern seafarers and so-called ‘menials’, whose labour as *lascars*, sweepers, servants and peons was vital to the maintenance of the telegraph network. These workers did not view the telegraph as an infrastructure silently operating in the background, but as a central part of their labour.¹⁵ Section three explores security of the telegraph by investigating the work and lives of lineguards and *ghulāms*. Despite attempts to mould lineguards and *ghulāms* into racially essentialised and disciplined security workers, these subalterns continually shaped their own work. By looking at the role of individual workers, the section demonstrates the limited reach of the IETD in creating a disciplined workforce. The paper concludes by outlining the expansion of the network during and after the First World War. It connects this expansion with the work of subalterns and draws on the research presented in the previous sections to conclude that the IETD telegraph was a hybrid infrastructure embedded in local spaces, communities, and labour. It argues that to understand the effects of the telegraph – its power and the limits to that power – the hybridity of the network must be grasped.

1. Operations

Intermediate operators: Armenians and Anglo-Indians

Armenians and Anglo-Indians made up the bulk of subaltern signallers in the IETD. Their importance, however, was not limited to their operation work, but extended to their embeddedness in local social and political structures. Imperial telegraphic communication was reliant upon Armenians and Anglo-Indians whose expertise were invaluable to the Department. Despite this reliance, Armenians and Anglo-Indians were increasingly racialised in the Department. From 1889 the IETD began the amalgamation of staff in the PS and PGS.¹⁶ Colonel Henry Archibald Mallock, the first Director General of the combined IETD and Indian Telegraph Department (ITD), oversaw the unification as a means of combatting the ‘inelasticity’ of signalling staff working across Sections during labour shortages.¹⁷ While the PS had innovated an informal two-tier system of ‘European’ signallers working the international wires and ‘Armenian’ signallers working the local wires, Mallock officiated this racial division of signallers across the entire IETD with the creation of the Local Service and General Service.¹⁸ The Local Service operated the local connections between stations and was primarily worked by Armenians and Anglo-Indians, while the General Service was responsible for international wires and worked by ‘Europeans’ on higher pay. This racial segregation of signalling duties was inspired by the ITD.¹⁹ In India, Anglo-Indians and Europeans operated the international wires of the General Signalling establishment, while Indian Hindus and Muslims operated the subsidiary Local Service.²⁰ The IETD also took inspiration from ‘private telegraph companies and all the Cable Companies in the East’ who ‘depend principally on European signallers’.²¹ Mirroring the general service of the ITD, Directors of the IETD called for an expansion of the General Service, which were increasingly becoming exclusive racial reserves for Europeans.²²

Racist assumption undergirded the implementation of the division of labour between the General and Local Services. For example, in 1890, the Director of the PS stated that their ‘race’ and ‘education’ made Armenians ‘incapable of becoming [good signallers]’.²³ Despite such beliefs, the needs of an expanding network and a shortage of ‘European’ signallers meant that Armenians were recruited at an increasingly higher rate. In 1890, the IETD attempted to formalise the supply of Armenians by contacting Dr Robert Bruce, a Scottish missionary who had built a Christian school in Isfahan to supply and train young Armenian boys for the Department.²⁴ Having inspected the school, the Director of the PS complained to the Director General that Armenians educated in India were of superior quality to those educated under Dr Bruce. Contrary to Armenians educated in the British Indian education system, Bruce’s students were lacking in both discipline and skill. He instead suggested that young Armenians from India should be recruited, or Armenians from Iran should be sent to India for education.²⁵ Alternatively, the Director of the PGS suggested that Armenians ‘of other nationalities residing in Baghdad, Moosul, and Busreh... at present employed in the Turkish telegraphs would readily come forward to join the local service.’²⁶ Because of cost and lack of Departmental recruitment capacity, Bruce’s supply of Armenians, mass employment from India and the Ottoman network were not adopted. Instead, the IETD drew from local communities utilising staff already employed in stations to recruit family members. The family names of the Malcolm, Carapit, and the David across multiple stations demonstrate that an informal familial network helped recruit and sustain the Local Service in the PS.

In the IETD’s Tehran, Shiraz, and Isfahan stations, Armenians dominated the lower Local Service positions. Armenians were crucial intermediaries in places like

Isfahan where the telegraph station was in the Armenian suburb of New Julfa,²⁷ and Tehran, the seat of Qajar power. Contrary to British assumptions about their incapacity to operate the international wires, Armenians became an attractive prospect for the Department precisely because of their capacity to operate across multiple spatial and cultural registers.²⁸ It is unsurprising then that the IETD increasingly relied upon this transnational group to operate and mediate its web of expanding connections. As a result of their perceived usefulness and European labour shortages, the number of Armenians in the Department grew throughout the late nineteenth century. In 1901 the Tehran office employed thirteen General Service signallers and only three Armenian Local service signallers. By 1904 the same office still employed thirteen General Service clerks but had expanded to six Armenian Local Service signallers and four Armenian desk clerks.²⁹ In 1908 the PS employed a total of twenty Armenian Local Service signallers. By 1910 the number had risen to thirty, and for the first time just over half of all PS signalling staff were Armenian.³⁰

While the British considered Armenians as culturally closer than other communities in Iran because of their Christianity, the Department utilised them as ‘cross-cultural brokers’ to connect the IETD to local potentates. In fostering such connections, language skills and cultural knowledge were crucial. Regional languages were often supplemented by Armenians’ already knowing French and English acquired at missionary schools.³¹ Armenians’ literal role of translating and articulating communication between communities and states lubricated operations for the Department. Beyond linking the IETD with local power, Armenians also facilitated communication between the Shah, his ministers, and the Department. Armenians, explained a Director of the PS, were ‘at the beet(sp) and call of the Assistant

Superintendent...[acting] as a go between for carrying orders from the Shah or his Ministers'.³²

To take one example: Stephen Peter Aganoor, an Armenian, appointed as munshi (secretary/assistant) in 1868 became an interpreter and accountant for the IETD in 1871 on a monthly salary of Rs 100 and a treasurer allowance of 50 qirāns.³³ His career is exemplary of the intermediary role that Armenians inhabited in the Department. Aganoor linked the Department directly to the prince-governor of Isfahan and his influence at the court was said to have produced 'consideration and respect for the Department'.³⁴ The Director of the PS went as far as to claim Aganoor as 'the best man' for connecting the IETD to the prince-governor. However, praise of Aganoor was given in the context of accusations within the Department of his supposed 'weakness of character', resulting in 'little or no attention' paid to his representations. Despite the allegations eventually leading to his replacement as local intermediary,³⁵ Aganoor's role as interpreter demonstrates the importance of subalterns at the centre of diplomatic channels and the specific role Armenians played as mediators between British and Iranian officials. Beyond their role translating or mediating relations, Armenians themselves became important nodes, connecting the Shah with his Governors and linking internal communication of the Iranian state.

As a religious minority and Persian subjects, Armenians could operate comfortably in local languages and registers, while also presenting themselves as enterprising Christians loyal to the British. A Director of the PS hyperbolically argued that Armenians could access spaces that European workers could not, and as 'native of the country', in times of unrest, could 'come and go when a European would probably be murdered if he showed himself in the streets.'³⁶ While this statement reflects

imperial security anxieties more than empirical evidence, it points to the value placed in Armenians as intermediaries able to traverse both imperial and local spaces and institutions. Despite their role as valuable interlocutors, Armenians did not receive commensurate salaries. Though many Armenians served in the Department for decades, they were generally 'not eligible for promotion above 3rd grade.'³⁷ This glass ceiling meant that Armenians could work as clerks but not hold management positions as Assistant-Superintendents or higher. It was justified by assumptions that their minority status influenced their 'moral character'.³⁸ Arshak Malcolm, who joined the service in 1866 on Rs 60 managed to be the exception to the rule, reaching 2nd grade in 1888 as clerk-in-charge of the station in the small southern market town of Borazjan.³⁹ His promotion was a partial recognition of the 'political' work he conducted on behalf of the IETD in a region where central government control remained weak as local Khans engaged in power struggles.⁴⁰ This work involved protecting the landline by negotiating with competing factions in and around the town. Malcolm was praised for his 'intrepid bearing' which, 'saved him from being attacked on more than one occasion'. Moreover, 'his influence over the native inhabitants of the district of Burasjoon' were praised as having 'often saved the telegraph line from...damage'.⁴¹

Like Armenians, Anglo-Indians primarily worked in the PGS Local Service.⁴² In India they were relied on as mediators between the British state and their indigenous subjects. After the Indian uprisings of 1857, Anglo-Indians maintained a near monopoly on the subordinate and upper subordinate ranks within the railway and telegraph Departments in India. This was encouraged by legislation stating that Anglo-Indian and Domiciled European employment should not fall below two-thirds of total employment in the Indian Telegraph Department.⁴³ Anglo-Indians were designated by the IETD as

capable of selected European traits of operating complex machinery like telegraph keys for signalling in the Local Service, whilst their Indian heritage granted them climatic toleration of the hot and remote stations of the Gulf. These ethnoclimatological assumptions, a racist science that linked ethnicities to certain climates, were used to reinforce a geo-racial division of labour. In the PS, this division was made between ‘Europeans’ and Armenians as it was argued that ‘Europeans’ should be employed in the ‘intensely cold place[s]’ of Qom, Abadeh and Dehbid, while the ‘warm locality[s]’ of Kashan, Isfahan, Kazerun and Borazjan were more suitable for Armenians.⁴⁴ The PGS, with its stations located on the arid shores of the Gulf employed virtually no Armenians and instead relied on Anglo-Indians. In turn, Anglo-Indians were excluded from the PS because it was assumed that they were ‘in stamina and habits quite unfit for the hardships of the Persian Highlands’⁴⁵ because of ‘their physique, their nationality...and the sedentary habits they have acquired in the cable stations of the Gulf.’⁴⁶ Such discourse mirrored imperial assumptions that naturalised race for the individual as inherently bodily and proscribed certain communities to particular forms of work. Racial divisions between the General and Local services in the IETD mirrored the gendering of telegraph labour in Britain during the same period, in which single needle instruments, and metropolitan and domestic wires, were feminised to promote female labour to certain ‘low skill’ jobs in the wake of strike action by male signallers. Echoing concerns regarding Anglo-Indians’ ‘stamina’ and the Iranian interior, commentators in Britain emphasised the delicacy of female telegraphists’ fingers working on the domestic lines with their ‘finer sense of touch’, and the acute sensitivity of the female nervous system ‘to the management of others’ needs and dialogues.⁴⁷ It was falsely believed that a stronger ‘masculine’ press on keys was required along with

an exclusively masculine knowledge of politics, finance and international affairs to operate international wires, with the result that international lines were exclusively operated by male signallers until 1914.⁴⁸ The gendering and racialisation of workers was a means of addressing labour shortages, while preserving hierarchies of control over those who were the subjects of imperial rule. Although racialised forms of labour division had existed from the Department's inception, the IETD came to rely more deeply on racialised signallers with the establishment of the Local and General Service in 1889. These developments mirror innovations made by the ITD, which, unsurprisingly, were adopted by the IETD as the Department was subsumed under the Director General of Telegraphs in India between 1888 and 1893.

The IETD's reliance on racialised groups made it vulnerable to collective organised action of the very groups they sought to control. The combination of a reliance on certain communities and a desire of finding increasingly cheap labour also produced tensions in the Department between subaltern groups. By 1914 the PGS had substantially increased the number of subalterns by expanding recruitment of Goanese Indians in subordinate roles.⁴⁹ This led to declining prospects for Anglo-Indians as cheaper Goanese labour was bought in to suppress wages and fill empty positions. M. De P. Webb, President of the Anglo-Indian Empire League, attempted to push back against the Department by petitioning the Director of the PGS.⁵⁰ In Sind, Webb wrote, the PGS was the largest employer for Anglo-Indians. He complained that while the General Service had been closed off to Anglo-Indians for some time, they were now being squeezed out of the Local Service by Goanese.⁵¹ This pressure on Anglo-Indian staff meant that the community was finding 'it more and more difficult to find employment for their children.' Webb concluded his petition by asking for increased pay for the

Local Service and ‘that the General Service be again thrown open’ to the Anglo-Indian community.⁵² As Webb’s petition demonstrates, the Anglo-Indian community in Sind were partly reliant on the Department for employment. They had become embedded in its labour system and operations. Although Webb’s demands were not immediately met, the petition forced the Department to acknowledge the fact that the IETD ‘no longer attracts Anglo-Indians’ because of poor prospects.⁵³ More broadly, the petition expresses the antagonisms that could develop amongst subaltern groups and across imperial space. While officials sought to shape subaltern labour from above, communities like Anglo-Indians could also marshal their own resources through petitions to push back against such desires. The role of Armenians and Anglo-Indians not only shows their centrality to operations but also the embeddedness of the telegraph network in local labour and political structures.

Focusing on Anglo-Indian and Armenian workers at the bottom of the IETD’s signalling hierarchy, telegraphic communication appears less as an exogenous force and instead as a technology reliant upon local expertise and shaped by local interests. However, local expertise, interests and agency were limited and shaped by more powerful forces, such as regulations, financial incentives and racist assumptions from above.



Figure 4. Anglo-Indian and/or British signallers with servants in the Karachi telegraph building, 1917. File 80 II Karachi buildings (16 Jul 1919-27 Sep 1927)

IOR/L/PWD/7/1252

2. Maintenance

While Anglo-Indian and Armenian signallers and translators linked the IETD to local space, servants and peons of the Department formed connections between operators inside stations. These workers were used to facilitate infrastructural space while maintaining the network and staff through cleaning and cooking. All telegraph stations in the network employed at least one peon or watchman, and most employed a sweeper, batteryman, coxswain and *bheestie* (water-carrier). Bushehr station employed a *hamal* (male housemaid and valet), a messenger, and a *mali* (gardener).⁵⁴ Accounts, medical superintendents, Store and Director's Offices all employed *ferashes* (servants). Cooks and *bheesties* provided everyday sustenance for employees while sweepers and

batterymen maintained the material and mechanical devices and spaces by making sure the central power source was functioning and dirt did not impede the flows and connections that the telegraph relied upon.

Although source material on these workers is limited, correspondence between signallers and their superiors offers an insight into the important roles played by servants and peons, and to the difficulties caused by absent, or unsatisfactory ‘menials’. For example, the superintendent at the small telegraph station of Pasni urged the Department to increase the wages of menials to attract employment as the station experienced ‘a great difficulty without a sweeper.’⁵⁵ At Faw, a peon was blamed for leaving a faulty lamp unattended and causing a fire.⁵⁶ At Bushehr, a clerk was blamed by his colleague for ‘not sending the peon’ to alert him that he was late for his shift.⁵⁷ Despite menials crucial role in connecting and maintaining signalling space, personnel and equipment, they often only appear in the archives as culprits to technical and communication failures.

Figure 4 offers a rare visual example of the role of menials. The image taken in Karachi telegraph station in 1917 shows signallers sitting at their desks looking at the camera or sorting through paperwork while two South Asian menials, possibly peons or messengers, stand for the camera ready to receive orders. The photo demonstrates the co-dependence between ‘low and slow’ and ‘high and fast’ technologies of messenger boys and Morse Keys.⁵⁸ Mechanical devices and large technical systems worked in tandem with micro technologies of individual human labour. While marginalised in the colonial archive, the image offers a glimpse of the indispensability of such labour to the network. In connecting and maintaining communications, menial work did more than merely complement technological infrastructure. Across stations, menials became a type

of human infrastructure, yet their maintenance and sustenance of networks was rarely acknowledged by commentators and users of the public facing telegraph services. In many ways, this human infrastructure was even less visible to public users than the material infrastructure that it maintained, precisely because it was presented as antithetical to the promises of seamless connectivity and dematerialized communication. Menials not only maintained the literal nuts and bolts of the network, but they also sustained its internal social networks by facilitating communication between employees. Through their continued practices of connecting, surveilling and maintaining infrastructural space, menials ensured that operations within stations could continue.

While the Department attempted to organize its menial workforce as an invisible component silently operating in the background, ‘menials’ pushed against these attempts by leveraging their crucial work for improved conditions. In 1927 the Department received a petition from the *ferashes* of Tehran station. The petition called for the reestablishment of ‘Eidi’, an extra payment of one month’s salary over the *Nowruz* holiday (Persian new year). They complained that the custom had not only been in place in the Department until relatively recently and suddenly withdrawn, but that the British Legation, the Imperial Bank of Persia, and the Indo-European Telegraph Company all gave their *ferashes* Eidi.⁵⁹ While the request by *ferashes* in Tehran was declined by the Department, a year earlier the *ferashes* at Panjgur station successfully petitioned for an increase in pay against rising food prices.⁶⁰ Regardless of their success, the petitions demonstrates that workers at the bottom of the IETD’s hierarchy were able to fight for improved conditions and influence the Department. Despite their

designation by officials as human infrastructure, these workers were able to push back in unintended ways against the organizing hand of the IETD.

The vital role of subaltern labour is also evident in the IETD's maritime operations. The IETD cable ship, *Patrick Stewart*, was responsible for the relaying and repair of the networks continuously degrading submarine cables. Aboard the ship, the everyday maintenance work of cables by subalterns offers an insight into how the network was in a state of continuous repair and the vast spread of different tasks needed for its maintenance. The highly mobile yet enclosed world of the *Patrick Stewart* enforced a segregated and disciplinary internal space while it traversed the Gulf maintaining submarine cables. The *Patrick Stewart*, like many similar contemporary ships, was a highly disciplinary and racialised space for its South Asian crew. Maintenance of the telegraph was ordered around racial stratification of its workforce, which was reflected in unequal spatial and salary arrangements onboard. The quarters and washrooms of the South Asian crew were as far away from the captain's cabin as possible, next to the hen coops and ladders to the lower deck where many would have toiled in the dark underbelly of the ship. Racial difference was also acknowledged through different pay, with *Lascars* paid around one-fifth to one-third of what their European shipmates received.⁶¹ This was often reduced further by bribes paid to a *serang* or head of *lascars* as part of wider practices of recruitment controlled by 'indigenous recruiters' who contracted relatives and debtors as a form of patronage and control.⁶²

The *Patrick Stewart* employed a majority of 67 South Asians who were assigned physically intense work such as stoking the boilers, cooking, and stewarding.⁶³ The maintenance of cables relied on a stratified racial hierarchy supported by large number

of subaltern labourers. This organization meant that the physical work, and its consequential effects on the body involved in maintaining the ship and carrying out the splicing and hauling of submarine cables, was primarily borne by these workers.

Medical records offer an insight into the impact that maintaining infrastructure had on the body. The life and career of the *serang* aboard the *Patrick Stewart*, who served on the ship from 1871 until 1891, Ameen Mohideen, offers such an insight. Ameen started off as a 2nd class *lascar* on Rs 16 and was promoted to *serang* on Rs 35. He was forced to retire due to irreducible inguinal hernia, which resulted in ‘protrusion of the gut’, and gave him ‘great abdominal pains accompanied with vomiting’ and preventing him from defecating.⁶⁴ The injury is often caused by strenuous activity and was almost certainly exacerbated, if not caused by, repetitive lifting. Ameen’s terrible injury was the consequence of physical entanglement in the operations of maintenance. The ‘revolutionary’ technology of telegraphy was only possible through the reproduction of physically difficult and repetitive tasks that often impacted the health of subalterns.

Below deck and out of sight of British officials, subaltern ship labour was very much in sight of each other, with crews forming bonds of debt and kinship.⁶⁵ Like menials on land, subalterns aboard the cable ship exercised forms of agency at work. While space and pay became the sites through which labour was racially divided, the micro-management of subalterns at sea was effectively outsourced to *serangs*. They offered valuable linguistic and seafaring skills that gave *Serangs* a degree of control in operations. Moreover, they maintained a certain amount of religious, financial, and physical control over their subordinates, making them possible ‘alternative centres of authority’, and in some cases leaders of mutinies.⁶⁶ On the *Patrick Stewart*, no mutinies

were recorded but *serangs* did have their own ‘gang of lascars’ that worked under their supervision. Even within the highly disciplined space of imperial ships, subalterns were able to carve out degrees of control and agency.

Maintenance work in the IETD not only maintained the material infrastructure of the telegraph network, but it also reproduced the Department’s social hierarchy.⁶⁷ Workers fixing and maintaining telegraph infrastructure were imagined and organized to operate as human machinery below deck and inside stations. Yet, analysing their scattered traces across archives shows us their importance to the telegraph network, the physical toll such work had on the body, and their agency in demanding improved conditions. Focusing on maintenance workers also shows the limitations, as much as the strength, of the IETD to enforce uniform discipline.



Figure 5. Photograph of the crew of the *Patrick Stewart* c.1890. Owned by author

3. Security: *Ghulāms*, lineguards, Artificers and *Jemedars*

Patterns of subcontracting and agency were not just restricted to subalterns on cable-ships and in telegraph stations. They were also found in the security work conducted across the network's landlines. *Ghulāms*, lineguards, linesmen and *jemedars* formed the backbone of security and daily labour operations in the IETD. They were employed to patrol sections of telegraph line, survey for damage and vandalism, and to appear as a visible presence of the Department in remote areas. Although these workers have

traditionally been presented as safeguarding areas of telegraph infrastructure,⁶⁸ their work was in fact multifaceted, intended to symbolise power whilst also carrying out maintenance work in remote locations. Although it was convenient for the Department to render security staff as an efficient and successful security apparatus, on the ground these employees worked around dangerous and unrealistic expectations.

The use of lineguards, linesmen and *jemadars* by the IETD was most prominent in Makran, a coastal region that straddled British and Qajar administered frontier territory in southern Baluchistan. The telegraph line in Makran was under the control of the PGS and divided into two sub-divisions. These two sub-divisions, the Jask Line Establishment (Jask Sub-Division) and Gwadar Line Establishment (Gwadar Sub-Division) were managed by the Superintendents of the respective stations. The Establishments were tasked with oversight of the line between the two stations in a region designated as ‘turbulent’ due to the numerous nomadic and semi-settled communities of predominately Baluchi peoples who remained outside formal state authority. During, and in the aftermath of its construction in the 1860s, security of the line was provided almost entirely by nomadic and semi-nomadic communities who were paid subsidies by the IETD for the line’s protection. The subcontracting of security overcame the impracticalities of levying and garrisoning a costly body of British troops. Reliance on local manpower for security was believed to minimise risk to British personnel and finance, while binding potential adversaries to British interests through financial rewards and punishments. By 1880 this system was somewhat formalised with the Director of the PGS directly appointed by India to take over subsidy payments to the Chiefs.⁶⁹

In 1882 the Superintendent of Jask was tasked with modifying and increasing the number of security personnel employed directly by the Department to create a cheaper, more reliable cohort of men. Codes of conduct and disciplinary rules for security personnel were created alongside the employment of a *Jamadar* of linemen, an Assistant Artificer and six temporary linemen employed for nine months of the year and divided between the two Establishments. Throughout the late nineteenth and early twentieth century the number of security personnel directly recruited by the IETD grew. For example, the Gwadar Sub-Division in 1903 employed sixty-eight men for security under the authority of a British Assistant Superintendent.⁷⁰ By 1907 this had risen to 102.⁷¹ Increasing reliance on internal security reveals an expanded attempt to control subaltern security workers through direct employment and internal disciplinary regimes.⁷² Alongside their new embedded security role, the linesmen were expected to undertake ‘petty works’, replacing ‘coolies’ who were often sourced from India and whose transportation was expensive and cumbersome.⁷³ As with the initial construction of the network, the reliance on local casualised labour meant that the lineguards often doubled up as labourers. Within the PGS, three artificers were organized under the ‘Lower Subordinate Establishment’. Many were skilled engineers and craftsmen tasked with leading groups of labourers to fix faulty and damaged portions of the line.

Like lineguards, *ghulāms* (servants) were also widely employed in the PS in central Iran.⁷⁴ These men were mainly mounted on horse to tackle the mountainous Iranian interior, while lineguards of Mekran had camels or went by foot. The IETD considered the *ghulāms* positions ‘peculiar’ and dangerous, as they were ‘required to leave their stations and repair the line whenever interrupted, whether the road be infested with robbers or not.’⁷⁵ Like the Anglo-Indians and Armenians, recruitment for

this difficult job was based on essentialised notions of racial characteristics that reflected the difficulty of finding willing recruits and wider imperial racist stereotypes. The Assistant Superintendent of the Isfahan Sub-Division complained that while the Indian telegraph network could rely on ‘well trained and intelligent nature[d] staff’, the IETD was compelled to use labourers ‘from the Bazar(sp) as they are required’. *Ghulāms*, he claimed, were ‘absolutely wanting in intelligence, interest in the task and acumen’ and not to be trusted.⁷⁶ They were, nevertheless, crucial. Although many *ghulāms* were praised for their work, racial assumptions meant that they were deemed unable to operate or fix complex machinery, and thus considered unworthy of technical training. Breaking down racial essences of *ghulāms*, the Director of the PS wrote that in the northern sub-section, ‘men of Turkish extraction’, most likely Qashqai’s, were recruited who are ‘more or less stupid, though also handy and courageous.’⁷⁷ Telegraph stations also relied on security by subaltern workers. In the Jask telegraph compound, seven *Chowkidar* police guards were recruited,⁷⁸ while in 1870 in Gwadar during disturbances against the local governor, fifty Karachi rural police and 100 guard were sent to protect the telegraph station.⁷⁹

Inspections by British clerks became a way for the IETD to monitor their embedded lineguards working in remote areas of Makran. In 1895, following a spate of thefts of bolts and clamps from telegraph posts, the Director of the PGS wrote to his superior to reassure him that the lineguards had been given instructions ‘to keep a stricter watch over the clamps’ on the telegraph poles securing them to the ground.⁸⁰ A ‘surprise’ inspection of the Jask-Chahbahar section when the lineguards least expected in the hot season of July, August and September was ordered. The inspection, carried out by a British superintendent, was designed ‘to ascertain which of the lineguards

neglected their work when no inspection by a European officer was expected'⁸¹ – an implicit recognition that indigenous labour was self-interested, and calculating. The results of the inspection were disappointing: the superintendent did not meet a single lineguard on his return journey. The lineguard Shukkan of Sirgan 'was said to have gone to Gaih to pick dates leaving his son Dooda aged 15 in charge but with no camel.' Another, Morad Humees, 'was said to be at Bal and absent since June leaving Shle Riza a Biluch in charge but latter was not living near his post.' Dhaie of Gabreg 'was said to be at Yak Buni had been absent for sometime and had left a Biluch named Morad in charge. Latter was not only deaf but an idiot.'⁸² The report suggests that lineguard duties were often performed alongside seasonal agricultural work and frequently offered to relatives. As a result of the report, Murad Humees of Swag was dismissed for being absent and Dhaie of Gabreg was fined.⁸³ The superintendent's report offers an insight into how the line was 'secured' on the ground, and how the IETD sought to monitor and discipline lineguards, but it also demonstrates the agency of lineguards in moulding, or avoiding their work altogether. Skiving lineguards were a partial product of the unrealistic and dangerous expectations of patrol. During summer in Makran temperatures were reported of reaching 120 °F (48.89 °C) in the shade of trees. Good water was scarce and 'only obtainable at the stations'. Moreover, even the IETD British inspector admitted that their target of patrolling the expected routes every two days was 'impossible...without camels or men breaking down.'⁸⁴

Such expectations demonstrate the degree to which 'European' management remained distant from the network on the ground and its practicalities and (im)possibilities. Beyond this, however, discourses by officials about the work of security personnel show that the network depended on people whom some contemporise

felt were unsuited or unwilling to do the work required. This paradox reveals that the management of 'problematic' labourers was as important to the functioning of the network as the technology and engineering underpinning its function. While the Department attempted to control labour through inspections and schedules, lineguards shaped their own work to fit their needs by not showing up or subcontracting. For all the imbalances inherent in the encounter between subalterns and IETD officials, the Department was unsuccessful in its attempts to produce a highly disciplined indigenous labour force. Additionally, its reliance on local labour gave these workers a degree of leverage to shape conditions of work and the network itself.

Despite this, subalterns in the IETD failed to formulate any collective demands that moved beyond communitarian identities. As such, the IETD never experienced mass strikes or a united labour opposition. This may appear particularly surprising when considering the growing labour militancy across British India in the late nineteenth and early twentieth centuries. While workers in the Indian Telegraph Department (ITD) were able to coordinate a national strike in India in 1908 that included 'European, Eurasian, and...Bengali clerks',⁸⁵ IETD workers failed to produce any comparable cross racial strike, even during the years it was subsumed into the ITD. Contrary to the IETD, organisers in the ITD were able to draw on a larger body of workers who mobilised within an Indian nationalist context. Workers in the IETD remained racially, socially, and religiously fragmented within different contexts across the Gulf and Iran. The transnational setup of the Department meant that the IETD lacked the unity of an emerging national space like India. Racial taxonomies in the IETD did not prevent strikes, as evident with the ITD, however, they did produce/reproduce specific 'races' with interests, sometimes in antagonism with other subaltern groups. Crucially, and

uniquely to Iran and the Gulf, was the transformation of the region into an expanded securitised frontier zone of British India. The perceived threat of rival imperial encroachment by British Indian officials in the age of 'high imperialism' resulted in an increasingly military character of the IETD, which in turn, made it difficult for network wide worker solidarity as a martial culture solidified hierarchies between military and ex-military 'European' officials and subalterns. As a result, workers of different 'races' and classes formed interest groups whose agencies and demands rarely moved beyond local contexts and specific demands.

Conclusion: Information and war

As the IETD grew in size and scope, subalterns were increasingly employed to run vital parts of the network. Organizing and running much of this expansion were clerks in the Accounts Branch, Traffic Office and Store Establishment who were almost entirely South Asian in the PGS, and Armenian in the PS.⁸⁶ Following the Indian Army's invasion of Ottoman Mesopotamia in 1914, the PGS became the main informational artery linking the new theatre of war to India. By 1914 the Traffic Office in Karachi was not only dealing with a rapidly growing volume of departmental traffic from an expanded network, but also complex and sensitive military communications from the Mesopotamia Field Force.⁸⁷ After the war, the movement of troops and the governance of the Mandate of Iraq from India meant that traffic increased rather than abated. The expansion and maintenance of this informational network was only possible because of the thousands of subalterns whose continued labour had laid the foundations for the operation, and eventual expansion of the telegraph network. From this perspective,

much of what we have come to understand as the foundations of the communication revolution, was dependent on subalterns, just as the prosecution of ‘the Great War’ in Mesopotamia depended on the labour of colonial soldiers.⁸⁸

Reflecting on the role of technology, or ‘machinery’ as it was termed in 1924, Gandhi wrote, ‘[t]oday machinery merely helps a few to ride on the backs of millions.’⁸⁹ Yet the study of subaltern labour in the IETD demonstrates that even at the centre of the empire’s communication network, subalterns were able to push back against imperial control. In reappraising imperial telegraphy through subaltern workers, the pioneers of networks appear much more eclectic and diverse than has traditionally been understood. Subaltern telegraph labour viewed from below begins to look less like Goldsmid’s description of a directed ‘volley of grape’ and more like collective and individual agents that were essential to the telegraph network, shaping its conditions and outcomes. Rather than a purely transnational, ethereal, and exogenous European ‘tool of empire’, subaltern labour demonstrates that while it may have been managed from afar, on the ground it was embedded in local spaces, materials, and peoples.

Notes and references

¹ Frederic Goldsmid, *Telegraph and Travel. A Narrative of the Formation and Development of Telegraphic Communication between England and India, under the Orders of Her Majesty's Government, with Incidental Notices of the Countries Traversed by the Lines*. (London: Macmillan and Co., 1874), 175.

² Partha Chatterjee, *The Nation and Its Fragments: Colonial and Postcolonial Histories*: 4, 1st Edition (Princeton, New Jersey: Princeton University Press, 1993), 10.

³ Armenians had a long history of serving East India Company and British merchants and missions. R W Ferrier, 'The Armenians and the East India Company in Persia in the Seventeenth and Early Eighteenth Centuries', *The Economic History Review* 26, no. 1 (1973): 38–62.

⁴ For a history of the 'martial races' see Gavin Rand and Kim A. Wagner, 'Recruiting the "Martial Races": Identities and Military Service in Colonial India', *Patterns of Prejudice* 46, no. 3–4 (July 2012): 232–54, <https://doi.org/10.1080/0031322X.2012.701495>.

⁵ Ranajit Guha et al., *Subaltern Studies I: Writings on South Asian History and Society* (Delhi : New Delhi: Oxford University Press, 1982), 1–9. Where possible, names that the communities' themselves would have used/use has been adopted.

⁶ Tom Brass, 'Moral Economists, Subalterns, New Social Movements, and the (Re-) Emergence of a (Post-) Modernized (Middle) Peasant', *Journal of Peasant Studies* 18, no. 2 (January 1991): 180, <https://doi.org/10.1080/03066159108438449>.

⁷ The fullest account of subaltern labour in the IETD is by Michael Rubin. While Rubin's account briefly focuses on 'Native linesmen', 'Armenians', 'Cultural exchange', pay differences and the employment history of some 'non-Europeans', he does not offer any systemic analysis of subaltern labour in the Department. Michael Rubin, 'The Formation of Modern Iran, 1858-1909: Communications, Telegraph and Society' (Unpublished PhD Thesis, New Haven, Yale University, 1999) See Chapter 8; Soli Shahvar mentions the cost, conditions and forced labour in the Ottoman portion of the line. He also outlines the workforce used to build the Karachi-Gwadar line and the Faw-Reishahr section. Soli

Shahvar, 'The Formation of the Indo-European Telegraph Line: Britain, the Ottoman Empire and Persia 1855-1865.' (1997), 103, 120–39, 409, 480.

⁸ For example, Christina Phelps Harris, 'The Persian Gulf Submarine Telegraph of 1864', *The Geographical Journal* 135, no. 2 (June 1969): 169, <https://doi.org/10.2307/1796823>; Mel Gorman, 'Sir William O'Shaughnessy, Lord Dalhousie, and the Establishment of the Telegraph System in India', *Technology and Culture* 12, no. 4 (October 1971): 581–600, <https://doi.org/10.2307/3102572>.

⁹ See Daniel Headrick, *The Tools of Empire: Technology and European Imperialism in the Nineteenth Century* (New York: Oxford University Press, 1981); Daniel Headrick, *The Invisible Weapon: Telecommunications And International Politics, 1851-1945* (Oxford: Oxford University Press, 1991); Daniel Headrick, 'A Double-Edged Sword: Communications and Imperial Control in British India', *Historical Social Research* 35, no. 1 (2010): 53–65, <https://doi.org/10.12759/HSR.35.2010.1.51-65> While in this article Headrick accounts for indigenous agency, it is from the top-down, centring the leaders of the Indian Nationalist movement.

¹⁰ For example, see Farajollah Ahmadi, 'Communication and the Consolidation of the British Position in the Persian Gulf, 1860s–1914', *Journal of Persianate Studies* 10, no. 1 (1 June 2017): 73–86, <https://doi.org/10.1163/18747167-12341308>; Daqing Yang, 'Telecommunication and the Japanese Empire: A Preliminary Analysis of Telegraphic Traffic', *Historical Social Research/Historische Sozialforschung* 35, no. 1 (2010): 66–89.

¹¹ See Roland Wenzlhuemer, 'The Dematerialization of Telecommunication: Communication Centres and Peripheries in Europe and the World, 1850–1920', *Journal of Global History* 2, no. 3 (November 2007): 345–72, <https://doi.org/10.1017/S174002280700232X>; Dwayne R. Winseck and Robert M. Pike, 'Communication and Empire: Media Markets, Power and Globalization, 1860–1910', *Global Media and Communication* 4, no. 1 (April 2008): 7–36, <https://doi.org/10.1177/1742766507086850>.

¹² The exception to this is Arthur Asseraf excellent study of telegraphy, news and its impact on populations in colonial Algeria. Arthur Asseraf, *Electric News in Colonial Algeria*, Oxford Historical Monographs (Oxford, New York: Oxford University Press, 2019); Deep Kanta Lahiri Choudhury's work on the role of Indian workers in constructing and operating the domestic Indian telegraph service and the 1907 telegraph strike in India also offers a compelling alternative. Deep Kanta Lahiri Choudhury, 'India's

First Virtual Community and the Telegraph General Strike of 1908', *International Review of Social History* 48, no. S11 (December 2003): 45–71, <https://doi.org/10.1017/S0020859003001263>; Also see Julia Martínez's excellent study on labour and race in the Darwin and Broome telegraph stations. Julia Martínez, 'Asian Servants for the Imperial Telegraph: Imagining North Australia as an Indian Ocean Colony before 1914', *Australian Historical Studies* 48, no. 2 (3 April 2017): 227–43, <https://doi.org/10.1080/1031461X.2017.1279196>; For a critique on the historiography of telecommunications see Richard R. John, 'Debating New Media: Rewriting Communications History', *Technology and Culture* 64, no. 2 (April 2023): 308–58, <https://doi.org/10.1353/tech.2023.0055>.

¹³ Mohandas Gandhi, *Gandhi: 'Hind Swaraj' and Other Writings*, ed. Anthony J Parel, Cambridge Texts in Modern Politics (Cambridge, UK: Cambridge University Press, 1997), 130.

¹⁴ Isabel Hofmeyr, *Gandhi's Printing Press* (Cambridge, Mass. ; London, England: Harvard University Press, 2013), 7–8, <https://www.jstor.org/stable/j.ctt2jbwsk>.

¹⁵ Susan Leigh Star, 'The Ethnography of Infrastructure', *American Behavioral Scientist* 43, no. 3 (1999): 380.

¹⁶ This amalgamation was part of the subsumption of the IETD into the Indian Telegraph Department. Between February 1888 and April 1893 the IETD was placed under the Director General of Indian Telegraphs. For the re-organization of the IETD see File 1A I.E. General re-organization of Indo-European Telegraph Department 1889-1893 IOR/L/PWD/7/592

¹⁷ From W.R. Brooke, Director General of Telegraphs to the Secretary to the Government of India PWD. IOR/L/PWD/7/592

¹⁸ Letter from the Director General of Telegraph to the Director PGS, Calcutta, December 5, 1889. No.168. IOR/L/PWD/7/592

¹⁹ Ibid.

²⁰ Choudhury, 'India's First Virtual Community and the Telegraph General Strike of 1908', 53–54.

²¹ Letter from the Director General of telegraphs to the Secretary to the GOI PWD, Calcutta, February 15, 1890, No.240 I.E. IOR/L/PWD/7/592

²² Choudhury, 'India's First Virtual Community and the Telegraph General Strike of 1908', 54.

²³ Letter from Director of the Persian Section (wells) to the Director General of telegraphs, Tehran, No. 98. July 7, 1890 IOR/L/PWD/7/592

²⁴ Letter from Henry Archibald Mallock to Secretary to the Government of India PWD, Calcutta, February 15, 1890, No.240 I.E. File 1A I.E. General re-organization of Indo-European Telegraph Department. IOR/L/PWD/7/592

²⁵ Letter from Henry Lake Wells to the Director General of telegraphs, Tehran, No. 98. July 7, 1890. IOR/L/PWD/7/592

²⁶ Letter from Benjamin Traill Finch to Director General of Telegraphs Simla, August 8, 1890. IOR/L/PWD/7/592

²⁷ On New Julfa see Sebough David Aslanian, *From the Indian Ocean to the Mediterranean: The Global Trade Networks of Armenian Merchants from New Julfa* (Berkeley, California: University of California Press, 2011), 1.

²⁸ For example, Armenians' involvement in the proto-globalized Eurasian silk trade.

²⁹ Civil List for India: Indo-European Telegraph Dept Persian Gulf & Persian Section, 1901-1908 (1901-1908) IOR/V/13/272.

³⁰ Civil List for India: Indo-European Telegraph Dept Persian Gulf & Persian Section, 1901-1908 (1901-1908) IOR/V/13/272. Civil List for India: Indo-European Telegraph Dept Persian Gulf & Persian Section, 1909-1915. IOR/V/13/273.

³¹ Letter from Director to PWD, April 7, 1909. IOR/L/PWD/7/1233

³² Letter from Wells to the Director General of Telegraphs, Qolhak, May 25, 1889. No.246. File 362 I.E.P Persia: Interpreters (23 Mar 1889-15 Oct 1889) IOR/L/PWD/7/1050.

³³ Rubin, 'The Formation of Modern Iran, 1858-1909: Communications, Telegraph and Society', 308.

³⁴ Ibid.

³⁵ "Details of Service of Mr. S.P. Aganoor." April 20, 1888. IOL/PWD/7/945 (244/la IEP) in Rubin, 'The Formation of Modern Iran, 1858-1909: Communications, Telegraph and Society', 308.

³⁶ Ibid.

³⁷ From the Examiner of Accounts IETD to Director General, Karachi, February 11, 1908.

No.154 IOR/L/PWD/7/1160

³⁸ For example, one British commentator wrote Armenians were no better than ‘the mass of Persians – and in truth one can hardly look for nobility of character or self-pride in a subject and oppressed race.’ Lieutenant-Colonel A.C. Yate, Reprinted from the *Scottish Geographical Magazine*, Vol. xxxiv, Travel Memories, August 1918, p. 306. GB165-0270.

³⁹ Arshak Malcolm promotion from 3rd grade to 2nd grade, May 28, 1888. File 229 I.E.P
Malcolm, Arshak (12 May 1888-1 Sep 1892) IOR/L/PWD/7/928

⁴⁰ Willem Floor, ‘Borāzjān, a Rural Market Town in Bushire’s Hinterland’, *Iran* 42 (2004): 192, <https://doi.org/10.2307/4300671>.

⁴¹ Rubin, ‘The Formation of Modern Iran, 1858-1909: Communications, Telegraph and Society’, 308.

⁴² Anglo-Indians or Eurasians, classified by the colonial state through their parentage of a British father and ‘native’ Indian mother, were seen as not belonging entirely to ‘native Asiatic’ or ‘white European’ races.

⁴³ Noel Pitts Gist and Roy Dean Wright, *Marginality and Identity: Anglo-Indians as a Racially-Mixed Minority in India*, (Brill Archive, 1973), 17.

⁴⁴ Letter from Wells to Brooke, Tehran, July 7, 1890. No. 98. IOR/L/PWD/7/592

⁴⁵ Extract from letter from Colonel Mallock to Govt of India (March 19, 1907)
IOR/L/PWD/7/1233

⁴⁶ Letter from Brooke to the Secretary to the Government of India PWD, April 1890, Nos. 3-6, Part A. No. 8. IOR/L/PWD/7/592

⁴⁷ Katie Hindmarch-Watson, *Serving a Wired World: London’s Telecommunications Workers and the Making of an Information Capital (Berkeley Series in British Studies)*: 17 (Oakland, California: California University Press, 2020), 47–48.

⁴⁸ Hindmarch-Watson, 59.

⁴⁹ Letter from the Director PGS to Director in Chief, Karachi, May 13, 1914. No.607 File 716 I
Cost of living in Persia and Persian Gulf (30 May 1914-13 Mar 1918) IOR/L/PWD/7/1564. The Director

of the PGS noted that it was particularly difficult to categorise Anglo-Indians whose racial ambiguity often had them ‘classed as Goanese’, especially if they had Portuguese names.

⁵⁰ Copy of letter from the President of the Anglo-Indian Empire League to the Director of PGS, Karachi, April 18, 1914. IOR/L/PWD/7/1564

⁵¹ In the entire PGS, according to Webb, there were 14 ‘Covenanted from England’, 25 ‘Uncovenanted Anglo-Indians’ and one Goanese in the General Service, while in the Local Service there were only 15 Anglo-Indians compared to 46 Goanese. Ibid.

⁵² Ibid.

⁵³ Letter from Eustace Edward Gunter to Raynor Childe Barker, Karachi, May 13, 1914. No.607. IOR/L/PWD/7/1564.

⁵⁴ Civil List for India: Indo-European Telegraph Dept Persian Gulf & Persian Section, 1901-1908. IOR/V/13/272 p.26

⁵⁵ Copy of letter from Superintendent of Post Offices Lower Sind and Persian Gulf to Deputy Postmaster General Sind and Baluchistan Circle, Karachi, January 4, 1928. No. A-40. IOR/L/PWD/7/1538

⁵⁶ Copy of a letter. Assistant Superintendent at Fao to Whitby Smith, Faw, August 14, 1908. No. 79. IOR/L/PWD/7/1255

⁵⁷ Letter from Butcher to Assistant Superintendent in charge Bushire Station, Bushehr, April 7, 1889. IOR/L/PWD/7/798

⁵⁸ For more on the idea of ‘low and slow’ working alongside ‘high and fast’ technologies see Patrick Joyce, *The State of Freedom: A Social History of the British State Since 1800* (Cambridge ; New York: Cambridge University Press, 2013), 10–11.

⁵⁹ Copy of a translated letter from the *ferashes* of Tehran Office to the Superintendent of Tehran Office, Tehran, March 5, 1927. File 652 Menial establishment 19 Mar 1926-30 Oct 1930. IOR/L/PWD/7/1538

⁶⁰ Letter from the menial staff Panjgur station sent through the officer-in-charge telegraphs Panjgur to Eustace Edward Gunter (DPGS), January 2, 1926. No. 14. IOR/L/PWD/7/1538

⁶¹ The European commander on the *Patrick Stewart* received a monthly salary of Rs 700 and his European officers between Rs 450 and 175, while subalterns received a maximum of Rs 60 to a minimum of Rs 8. Carpenter's Mate and *serang* of *lascars* received the highest subaltern pay on the ship at Rs 60 and 55 while *lascar* boys received Rs. 8. A *massalchee* (torch bearer), or kitchen servant received Rs. 12. Civil List for India: Indo-European Telegraph Dept Persian Gulf & Persian Section, 1901-1908. IOR/V/13/272 p.21

⁶² David A. Chappell, 'Ahab's Boat: Non-European Seamen in Western Ships of Exploration and Commerce', in *Sea Changes: Historicizing the Ocean*, ed. Bernhard Klein and Gesa Mackenthun (New York: Routledge, 2004), 80.

⁶³ Civil List for India: Indo-European Telegraph Dept Persian Gulf & Persian Section, 1901-1908. IOR/V/13/272 p.20-21 The ships subaltern crew consisted of an Assistant Surgeon, clerk and store-keeper, carpenter's mate, a *serang* of *lascars*, two *tindals* (boatswain's mates), four *seacunnies* (quartermaster), eight *lascars* 1st class, thirteen *lascars* 2nd class and two *lascars* boys, a *serangs* of stokers, a *tindal* of stokers, four 1st class stokers, four second, four third and four fourth class stokers, a *kassaub* (merchant), two *lascars*' cooks, a general mess butler, an engineer's butler, a cook and baker, a cook's mate 1st and 2nd class, a *massalchee* (torch bearer), a general mess servant 1st and 2nd class, a warrant officer's servant 1st class, a commander's servant and two *topazes* (Indo-Portuguese gunner).

⁶⁴ Doctors note. File 393 I.E *serang* Ameen Mohideen of the *Patrick Stewart*. IOR/L/PWD/7/1092

⁶⁵ Ravi Ahuja, 'Mobility and Containment: The Voyages of South Asian Seamen, c.1900–1960', *International Review of Social History* 51, no. S14 (December 2006): 133–34, <https://doi.org/10.1017/S002085900600263X>.

⁶⁶ Aaron Jaffer, "'Lord of the Forecastle": *Serangs*, *Tindals*, and Lascar Mutiny, c.1780–1860', *International Review of Social History* 58, no. S21 (December 2013): 174, <https://doi.org/10.1017/S002085901300028X>.

⁶⁷ For more on maintenance see Andrew L. Russell and Lee Vinsel, 'After Innovation, Turn to Maintenance', *Technology and Culture* 59, no. 1 (2018): 1–25, <https://doi.org/10.1353/tech.2018.0004>.

⁶⁸ For example, Shahvar argues that 'linemen and line-guards patrolling the line afforded security not only to the line, but also greater security to the post road. Greater security, in turn, increased

the number of travellers and businessmen, both local and foreign, and thus contributed towards increased commercial activity and social interaction.’ Shahvar, ‘The Formation of the Indo-European Telegraph Line’, 494.

⁶⁹ Précis of Mekran Affairs (1905), 112. IOR/L/PS/20/C244

⁷⁰ Civil List for India: Indo-European Telegraph Dept Persian Gulf & Persian Section, 1901-1908. IOR/V/13/272 p.22

⁷¹ R. Hughes-Buller, *Baluchistan District Gazetteer Series: Makran and Kharan*, vol. VII and VII-A (Bombay: The Times Press, 1907), 233.

⁷² This increase reflected broader imperial involvement in Baluchistan from the 1870s. See Thomas Simpson, *The Frontier in British India: Space, Science, and Power in the Nineteenth Century* (Cambridge: Cambridge University Press, 2021), 249, <https://doi.org/10.1017/9781108879156>.

⁷³ Finch to Champain, Karachi, July 2, 1883. No.863. D.2 Persian Gulf, Submarine and Mekran Lines: Mekran Land Line. IOR/L/PWD/7/225

⁷⁴ Often written in sources as Gholams or Ghulam. In Persian *ghulāms* can be translated as slave or servant.

⁷⁵ Copy of letter from Simpson to the Iranian Minister of Posts and Telegraphs, December 3, 1929. No. 1195/114.

⁷⁶ Letter from the assistant Superintendent Isfahan sub-division (J.R. Preece) to The officiating Direct PS, Isfahan, January 14, 1891. No. 149 File 438 I.E.P Persia: Construction (5 Sep 1890-9 Aug 1892) IOR/L/PWD/7/1142

⁷⁷ Letter from the Director of the PS to the DG, February 6, 1891. No.431. IOR/L/PWD/7/1142

⁷⁸ Letter from J.B. Buckly to Murdoch Smith, 14 June, 1887. File D.8 Jask Boundary. IOR/L/PWD/7/314.

⁷⁹ Indo European Telegraph Department, *Official History of the Mekran Telegraph Line from Karachi to Jask* (Karachi: Mercantile Press, 1895), 61.

⁸⁰ Possman to Ffinch, Karachi, March 20, 1895. No.302. IOR/L/PWD/7/1224

⁸¹ Sealy to Ffinch, Karachi, March 10, 1897. No. 213. IOR/L/PWD/7/1224

⁸² James's Report forwarded from Sealy to Ffinch, March 10, 1897. No. 213.

IOR/L/PWD/7/1224

⁸³ Sealy to Ffinch, Karachi, March 10, 1897. No. 213. IOR/L/PWD/7/1224

⁸⁴ James's Report forwarded from Sealy to Ffinch, March 10, 1897. No. 213.

IOR/L/PWD/7/1224

⁸⁵ Choudhury, 'India's First Virtual Community and the Telegraph General Strike of 1908', 68.

⁸⁶ For example, in Karachi and within the Director's Office in 1901 there was a Head Clerk, Record Clerk, a Desk Clerk, Munshi and a Sowar, all of whom were South Asian based upon the recorded names. Civil List for India: Indo-European Telegraph Dept Persian Gulf & Persian Section, 1901-1908. IOR/V/13/272

⁸⁷ Note by Director in Chief, June 21, 1918. IOR/L/PWD/7/1556. Note from the Director in Chief, Simla, August 27, 1914. IOR/L/PWD/7/1556. In 1892-3, 116,273 messages were dealt with by the Traffic Office, and by 1912-13 this had risen to 391,098. Local traffic increased 154 per cent from 1908-9 leading to the expansion of the Traffic Office from five employees in 1892-3, to twelve by 1914.

⁸⁸ Santanu Das, *India, Empire, and First World War Culture: Writings, Images, and Songs* (Cambridge: Cambridge University Press, 2018), <https://doi.org/10.1017/9781139963244>.

⁸⁹ Gandhi, *Gandhi: 'Hind Swaraj' and Other Writings*, 166.