

RAIL CANVAZ

A TrainTrackers' Initiative

August 2021

1st Anniversary Issue



Meter-gauge Treasure Troves

This is the story of the long and eventful journey of the railways in India, told by one who has not only belonged to the extended family of the Indian Railways as the wife of an avid railway man, but has belonged to a family of railwaymen since the late nineteenth century. This is not a historical document but looking back through the rear window at the metamorphoses that have revolutionised our daily existence, replete with interesting experiences involving both the common railway persons and many luminaries.

Sudakshina Kundu Mookerjee is a retired Professor of the state technical university of West Bengal. She has published short stories for children in her younger days which took a backseat during her professional days when she concentrated on academic publications. After her retirement she has renewed her interests in storytelling by writing in magazines. She has published a book of short stories on the experiences of the pandemic. This book is her tribute to the railway people and an insider's story of the unsung champions whose untiring efforts keep the lifeline of the nation alive.



TOWARDS FREEDOM

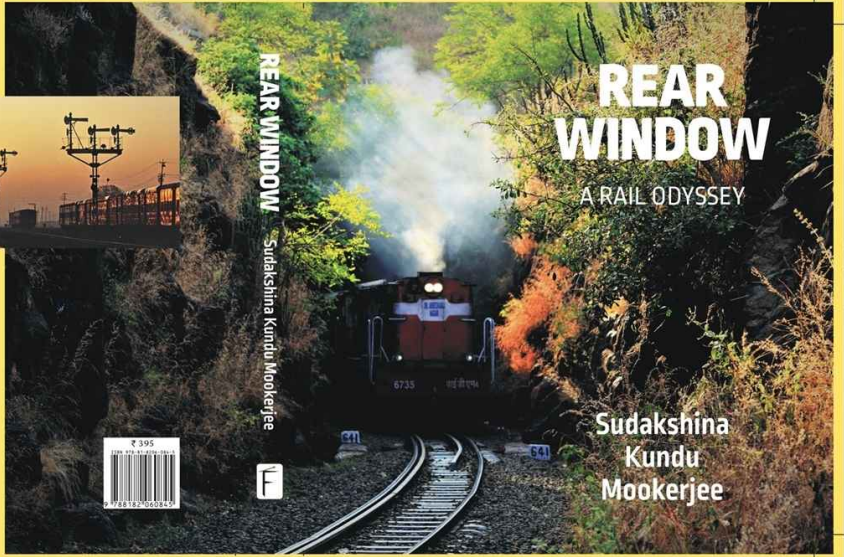


REAR WINDOW
Sudakshina Kundu Mookerjee

REAR WINDOW

A RAIL ODYSSEY

Sudakshina
Kundu
Mookerjee



This book describes the evolving character of rail travel over the past century, as heard from family members of the author, who worked in the railways during the colonial past and also from the late 1960s till date, based on her personal experiences.

Having witnessed Indian Railways from close quarters, Sudakshina Kundu Mookerjee has portrayed the changing lifestyle of railway families during the past four decades, as the ethos of the railway eco-system underwent a gradual shift during this period.

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“Not all of us can do great things. But we can do small things with great love.” – Mother Teresa.

That's how our journey started from the last Independence Day amidst the worldwide pandemic. It's been a year now and with the wink of an eye, time has gone by. This special occasion thus calls for a special issue and we have chosen to focus on the once ubiquitous meter-gauge system of our nation in our **First Anniversary Issue**.

India has been a country of diverse gauges whose railway roots go deep into the era of Colonial Administration dating back to the 19th century. While introducing railways in this land of gargantuan dimension, the British had carefully considered the future aspect and prospect coupled with the challenges and impediments that lay as stumbling blocks in their way of transmuting their plans and proposals into reality. Topography and demography have typically been the defining factors about the gauge to be invested in. More often than not, during the 19th century, the 1000 mm gauge got precedence over the broader and narrower gauges resulting in a total of 24,153 route kilometres of meter-gauge network by 1947. But after a few decades of Independence, the fate of meter-gauge in our country began to get transmogrified into a track of obscurity and uncertainty as the widest gauge of 1676 mm started eating away the meter-gauge routes in the backdrop of Mission Raftar and Unigauge policies. By March, 2021 a meagre 2,304 route kilometres have survived so far but for how long is anybody's guess. As the meter-gauge disappears into the sunset of wilderness, we recall those routes and sites where the meter-gauge not only got interlaced with the life and culture of the people but also became the source of livelihood. Thus, we dedicate the instant issue along with our upcoming January 2022 issue to the prevalent Meter Gauge system of our country that once spun a web across the length and breadth of the nation.

We start things off with the unique MG EMU from the southern part of the State. **Arkopal Sarkar** explores the routes and the mechanical dynamics that drove the *Meter-Gauge EMU* through the suburbs of Madras. None other part of the country witnessed the smaller gauge EMU which had become the part and parcel of everyday life of the southern metropolitan populace. From the sultry meteorology of Chennai, we get to the cooler and greener Northeast which has always been the MG bastion for many a decade and Assam used to be the land of meter-gauge steams and diesels that meandered through the tougher terrains of the foothills of the Himalayas. **Santulan Mahanta** guides us across the space, time and history of smaller gauges and the steams that trundled past the ranges in his *Smokers in An Uneven Land* whose minute detailing is attributed to his painstaking research work. Travelling west, we reach Bihar whose MG network used to connect its many vital towns and cities as **Trayambak Ojha** takes us on a *Meter Gauge Sojourn of Bihar*. Up next we proceed for a meter-gauge journey across the neighbouring Uttar Pradesh for the second instalment of *Through the Heartlands of UP, Part-II* on the Pilibhit-Mailani-Palia Kalan stretch of journey. We head further west into the land of Rajputs through the *Chhoti Line* by **JL Singh** as he rewinds his stay and call of duty during the meter-gauge days of the NWR. Read through the lines to experience the good old days of the Rajputana MG network. How can the meter-gauge saga of India be complete without the mention of Gujarat! **Rudranil RoyChowdhury** redraws the MG map of the land of lions in *Emergence of the Gujarat Meter Gauge* since the late 1800s along with



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other social developments that led to the growth of an extensive 1000 mm network. We then move to the Hindustan ka Dil – Madhya Pradesh for savouring a journey in the *Train to Patalpani* where the heritage train adorn the frame exhibiting a gamut of colours in the backdrop of a green Choral valley and a graceful Patalpani waterfalls. We now get southbound again to complete our circuit through *The Legacy of the Meter Gauge Electrics* on the solo meter-gauge electric locomotive of India, YAM1, by **Anamitra Bose** in our Technical Insight section.

Apart from the MG accounts, we have **PK Mishra** scripting the *Early Days : 1845* of EIR in his second part while **Roberto De'Andrea** sketches the third contact of the *Calcutta-Melbourne TramJatra*.

In celebration of the 1st Anniversary of Rail Canvaz, we introduce a new section Railway through Sketches where we host some of the most exquisite sketches and drawings on Indian Railways. We are delighted to inaugurate this special segment with the exclusive works of **Smt. Sudakshina Kundu Mookerjee**. Last but not least, we have two select articles by **Sanjoy Mookerjee** – one is a *Tribute to Pradip Kumar Banerjee*, the famous & iconic footballer and coach of the Indian National Football Team who also happened to be an ardent Railwayman while the other is on the *Restoration and Digitisation of Heritage Timetables of the East Indian Railway [EIR]* and the pivotal role played by the Kolkata wing of Rail Enthusiasts' Society in persuading Eastern Railway to undertake the project with the expertise of INTACH.

We tick things off with our regular sections of News Station featuring the latest developments in IR and Photo Junction displaying marvellous photos from ferroequinologists across the country.

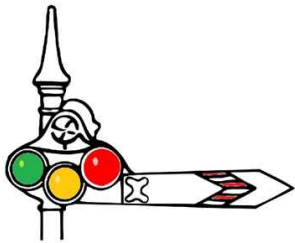
Our meter-gauge journey does not end here as our New Year issue will carry some more interesting anecdotes on meter-gauge exclusively. In our endeavour so far, we express our gratitude and sincere thanks to Sanjoy Mookerjee, JL Singh and Rail Enthusiasts' Society, not only for their unconditional support but also for their invaluable counsel and inspiration throughout. We look forward to justify the faith of our readers and followers as we continue to get motivated by the words of Steve Jobs, "*Have the courage to follow your heart and intuition*".

*Samsabhra Das
Sabhadyaoti Bose*



RAIL CANVAZ

A TrainTrackers' Initiative



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Smokers in an Uneven Land

Come, discover the steams that roamed around the hills of Assam since the inception of railways there. **Santulan Mahanta** takes you on a journey to the yesteryears from the world of the steams, courtesy to his vivid research work complete with minor details.



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JL Singh opens up a box of memories portraying his stay for call of duty in the land of the Rajputs in a riveting writeup recreating the charm of the good, old MG days of NWR.



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Emergence of the Gujarat MG

The story of evolution of meter gauge in the land of lions makes an interesting read. **Rudranil RoyChowdhury** marks the path of development of MG from the pre-Independence days and the role of the Princely States and private players who knit the state with a myriad of routes.



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Through the Heartlands of UP (Part-II)

Our safari through the vast Uttar Pradesh network enters into its second phase as **Subhadyouti Bose** writes home about the experiences of the Pilibhit-Palia Kalan stretch of the journey where the glory of uncertainty of the obscure nights and a backward way of life surprises us.



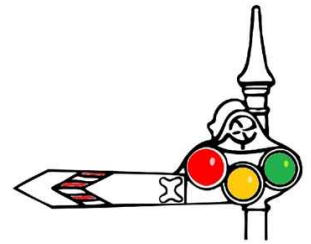
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Train to Patalpani

Somsbhra Das witnesses the manifestation of excitement and exhilaration that defines the Heritage Train amidst the beauty of an emerald Choral Valley and a ravishing Patalpani falls.

RAIL CANVAZ

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Exclusive Series



EIR Early Days : 1845 (Part-II)

PK Mishra continues to take us along on the journey made by the EIR and the milestones that marked its path of progress over the ages.

Technical Insight



The Legacy of Meter Gauge Electrics

The solo MG Electric Locomotive of the nation, the YAM1 hogs all the limelight in this issue with Anamitra Bose raking up all the technicalities of the iconic loco that had become the identity of Southern Railway's MG trunk route.



Calcutta-Melbourne Tramjatra (Part-III)

A spurt of colours that paint the fabric of rich heritage and culture of the two cities on a common platform enters the new century as Roberto DeAndrea presents the third part of an enterprising journey across the continents.



Meter Gauge EMU

The Chennai suburban network, an erstwhile MG network and the only MG network of the country to witness meter gauge EMU was indeed unique to the hilt. Arkopal Sarkar puts down an account depicting the routes and the mechanical dynamics of the erstwhile the MG EMU.

Miscellaneous

05 Restoration & Digitisation of Heritage Timetables of the East Indian Railway

A brief by Sanjoy Mookerjee on the initiative taken by the Kolkata wing of the Rail Enthusiasts' Society to persuade Eastern Railway into preserving the priceless possessions of immense heritage value under the expertise of INTACH.

75 PK Banerjee, the Railwayman

A tribute to the administrative skills of the legendary footballer while being an employee of the largest employer by Sanjoy Mookerjee.

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Photo Junction

Captivating frames and enchanting images. A section dedicated for photographs of rail enthusiasts....

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News Station

A sneak peek into some of the recent happenings of Indian Railways that made headlines....

insider stories

Restoration & Digitisation of Heritage Timetables of the East Indian Railway

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Other places of interest are the Kalighat Temple, St. John's Church, the High Court, the Legislative Council Chamber, the Eden Gardens, Government House, the Indian Museum, Chatterjee Monument, Fort William, the Royal Botanical Gardens at Sibpur, the Zoological Gardens, the Royal Agricultural and Horticultural Gardens at Alipour, Sir Stuart Hogg Market, the Dakurra Lakes, the Marble Palace, Jain Temple and the King George V Dock.

On the right bank of the Hooghly is Howrah which is connected to Calcutta by a magnificent cantilever bridge. Here is the railway terminus of the East Indian and Bengal Nagpur Railways.

The mean temperature is 77°F. and the average rainfall 46 inches, the greater portion of which falls between June and October.

ADI SAPTAGRAM (Trishigha) (West Bengal).—Otherwise known as Saptagram, 27 miles from Calcutta, derives importance from its ancient glory during the Hindu Kings of West Bengal and the Mahomedan rulers who later established themselves in this part of the province. Tradition holds that Saptagram was the residence of the seven hermits of princely birth, the sons of King Prayastha. The

Abstract time table of principal trains.

HOWRAH - ASANSOL - PATNA - MOGHAL SAARA - LUCKNOW - SAHARANPUR - CAWNPORE - DELHI

Train No.	7	17	15	*21	23	19	13	1	5	11	18	3	25
From Platform No.	7	7	7	7	7	7	7	7	7	7	7	7	7
To Platform No.	7	7	7	7	7	7	7	7	7	7	7	7	7
Miles From	11	11	11	11	11	11	11	11	11	11	11	11	11
Howrah	0	0	0	0	0	0	0	0	0	0	0	0	0
67 Burdwan	9 50	10 50	11 50	12 50	13 50	14 50	15 50	16 50	17 50	18 50	19 50	20 50	21 50
132 Asansol	11 50	12 50	13 50	14 50	15 50	16 50	17 50	18 50	19 50	20 50	21 50	22 50	23 50
183 Madhupur	13 50	14 50	15 50	16 50	17 50	18 50	19 50	20 50	21 50	22 50	23 50	24 50	25 50
228 Jhajha	15 50	16 50	17 50	18 50	19 50	20 50	21 50	22 50	23 50	24 50	25 50	26 50	27 50
262 Kiel	17 50	18 50	19 50	20 50	21 50	22 50	23 50	24 50	25 50	26 50	27 50	28 50	29 50
283 Mokmah Jn.	19 50	20 50	21 50	22 50	23 50	24 50	25 50	26 50	27 50	28 50	29 50	30 50	31 50
338 Patna Jn.	21 50	22 50	23 50	24 50	25 50	26 50	27 50	28 50	29 50	30 50	31 50	32 50	33 50
344 Cawnpore	23 50	24 50	25 50	26 50	27 50	28 50	29 50	30 50	31 50	32 50	33 50	34 50	35 50
411 Buxar	25 50	26 50	27 50	28 50	29 50	30 50	31 50	32 50	33 50	34 50	35 50	36 50	37 50
418 Moghal Sarai	27 50	28 50	29 50	30 50	31 50	32 50	33 50	34 50	35 50	36 50	37 50	38 50	39 50
429 Benaras Cant.	29 50	30 50	31 50	32 50	33 50	34 50	35 50	36 50	37 50	38 50	39 50	40 50	41 50
508 Paragbarh	31 50	32 50	33 50	34 50	35 50	36 50	37 50	38 50	39 50	40 50	41 50	42 50	43 50
568 Rae-Barh	33 50	34 50	35 50	36 50	37 50	38 50	39 50	40 50	41 50	42 50	43 50	44 50	45 50
616 Lucknow	35 50	36 50	37 50	38 50	39 50	40 50	41 50	42 50	43 50	44 50	45 50	46 50	47 50
718 Shahjahanpur	37 50	38 50	39 50	40 50	41 50	42 50	43 50	44 50	45 50	46 50	47 50	48 50	49 50
762 Banahly	39 50	40 50	41 50	42 50	43 50	44 50	45 50	46 50	47 50	48 50	49 50	50 50	51 50
818 Moradabad	41 50	42 50	43 50	44 50	45 50	46 50	47 50	48 50	49 50	50 50	51 50	52 50	53 50
905 Lucknow	43 50	44 50	45 50	46 50	47 50	48 50	49 50	50 50	51 50	52 50	53 50	54 50	55 50
923 Meerut	45 50	46 50	47 50	48 50	49 50	50 50	51 50	52 50	53 50	54 50	55 50	56 50	57 50
954 Dehra Dun	47 50	48 50	49 50	50 50	51 50	52 50	53 50	54 50	55 50	56 50	57 50	58 50	59 50
938 SAHARANPUR	49 50	50 50	51 50	52 50	53 50	54 50	55 50	56 50	57 50	58 50	59 50	60 50	61 50

Platform numbers are subject to alteration. (C)—Certain limited number of classes of passengers. N.B.—Timings of E.P. Railway are approximate. * Timings for foreign Railways are approximate. † Temporarily suspended.

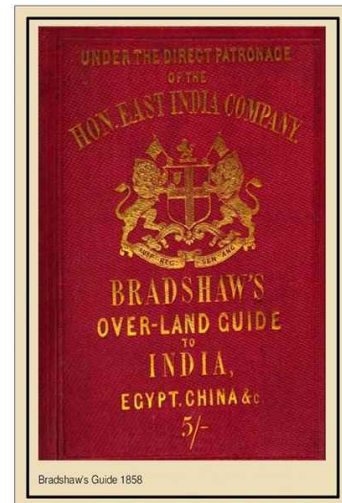
Sanjoy Mukherjee

“Do you know that decades earlier Himgiri was the only train to make you reach Lucknow from Kolkata on the same day without any overnight journey....Do you know about the schedules of Deluxe and Frontier Mail in those days....”. Whenever questions like this pop up, we try to scramble through some books of special genre from the yesteryears – yes, the Railway Timetables! Timetables are no ordinary books and nearly every page embodies the quintessence, ethos and evolution of railways over the ages.

Worldwide, Railway Timetables have a fascinating history. Since their advent in the year 1839 in England, apart from the train running schedules, railway timetables also featured a host of railway information including train routes, stoppages, passenger fares, amenities in stations and on-board trains, tourist information and advertisements.

In this country too, the instance was no different. East Indian Railway, which ran the first train in Eastern India on the 15th of August, 1854 from Howrah to Hooghly, was a pioneer in the publication of railway timetables. Right from the beginning, EIR ran passenger trains and some freight trains to schedules. As the number of trains increased, the railway started printing timetables regularly incorporating station details, catering facilities, fare tables, retiring room availability and information regarding connecting trains, river and surface transport.

While every railway in India began printing their own timetables, the introduction of the Indian Bradshaw in the 1860s combined them in one volume and transformed this compilation into a comprehensive guide book. The Indian Bradshaw lasted for over a century. So long as it was published, it had become the rail travellers' trusted companion. Initially, the Indian Railways used to publish an All-India Timetable. Later on, in the year 1977, it developed the first concise train timetable named Trains-at-a-Glance. This unique book, which also carries the Railway Map of India, is highly popular to this day. Trains-at-a-Glance now has a digital edition as well and with changing times it has emerged as the timetable of the future.



East Indian Railway began publishing timetables within its first year of its operation. Many of these, ranging from the years 1869 to 1955 have been preserved by Eastern Railway with great care. But age has caught up with many of the volumes. They are no more in pristine condition, due to dust, browning of the paper, brittleness as a result of humidity and stains due to wear and tear. Accordingly, in 2019, the Kolkata Chapter of the Rail Enthusiasts' Society proposed to Eastern Railway to restore and digitise those priceless possessions following which the Eastern



Condition before preservation

Railway to restore and digitise those priceless possessions following which the Eastern Railway, in an unprecedented move, decided to obtain expert advice on the matter. A 'Condition Report' of these timetables was prepared by Indian National Trust for Art and Cultural Heritage [INTACH] in association with the Rail Enthusiasts' Society [RES] for restoration & digitisation in



Fascination for Ornaments

An extraordinary love for the decoration of person is an inherent virtue very commonly found in the fair sex all over the world. But forms to give this taste a concrete shape are divergent. With regard to the ladies of the enlightened societies, it is neat and tidy while that of the less gifted ones is cumbersome.

As a concrete example of the latter case may be cited what obtains with the native womenfolk of Rhodesia. To give their person an agreeable turn they adorn themselves from head to hip with strings of stones and foreign "fixings" so thickly as to cover up bareness of that part of their body. Horrible indeed!

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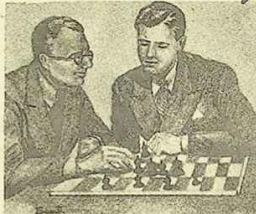
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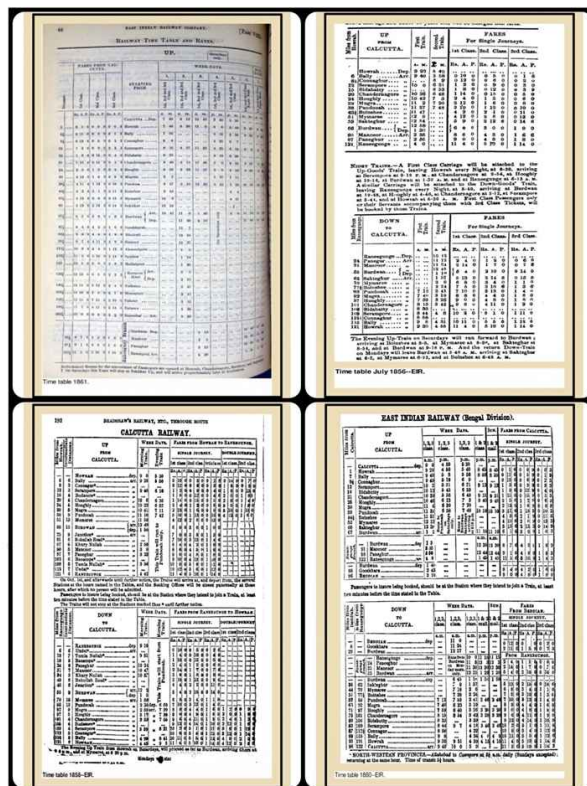
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order to preserve these invaluable documents and pave way for future research. Based upon the Condition Report, restoration and digitisation work for the EIR's timetables of the watershed years have been completed which include 1869, 1891, 1903, 1906, 1917 & 1948.

The work of restoration involved the following activities :

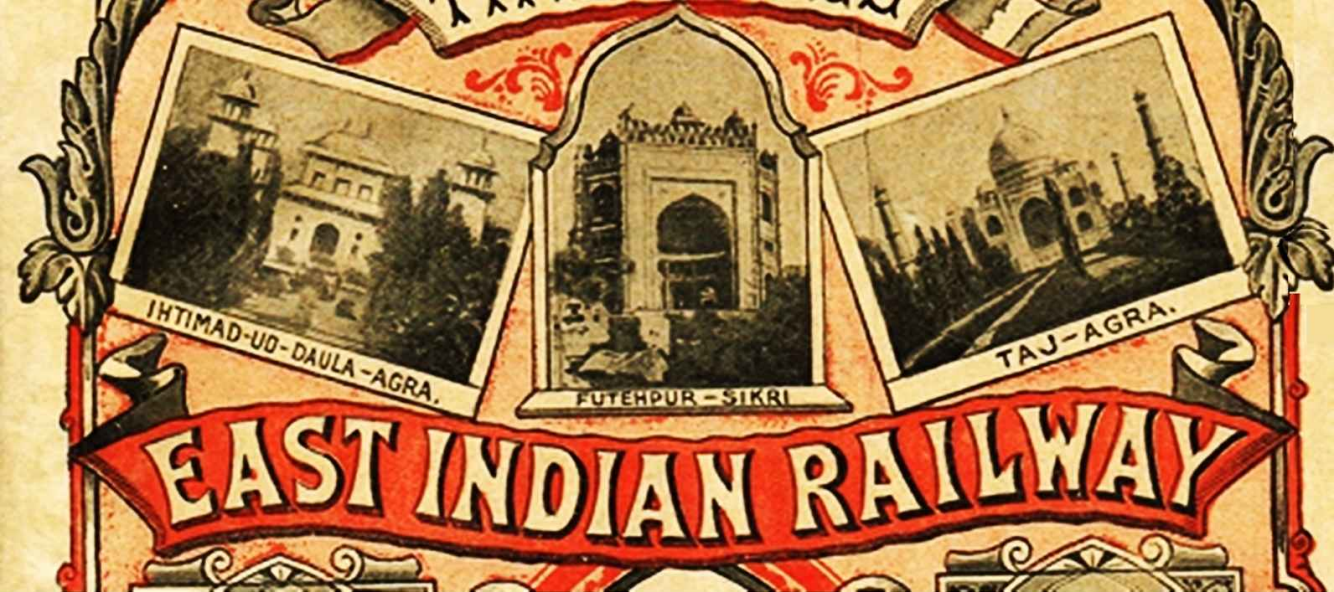
- Fumigation and Dry Brushing
- Scientific Housekeeping and Storage
- Ink and Acidity testing
- Removal of previous repairs & consolidation
- De-acidification to remove products of hydrolysis and acid causing agents
- Flattening and relaxing of the folios
- Mending the tears, holes and weakened edges
- Reinforcing, Conservation and lining of sheets to impart strength of each folio
- Guarding, Stitching and Binding of each Timetable volume to ensure originality



Digitised Photocopy

It is a matter of great pride and passion that such antique and unique records finally got the treatment they deserved. To hail this noble effort, Shri Arun Arora, General Manager of Eastern Railway dedicated the restored and digitised Heritage Timetables to the Railway Customers and Railway Persons of East Indian Railway and Eastern Railway, past and present, through a felicitation event in Kolkata on the 13th August, 2021.

The contribution of the project team consisting of Eastern Railway, INTACH and the Kolkata wing of Rail Enthusiasts' Society, who have worked on it even during the COVID pandemic, deserves special appreciation. This joint initiative is an effort to connect the past with the present keeping an eye on the future so as to preserve the rich railway archival heritage and legacy left behind by the era gone by.



EIR Early Days : 1845

Part - II

P K Mishra

1845 was a roller coaster year, a year full of intense activities, negotiations and back-channel discussions; it was the year when East Indian Railway Company would be established, it was the year when East India Company would formally acknowledge & consider the proposals of Stephenson et al to construct Railways in India.

It was the year when Court of Directors would come to the conclusion that the railroad system was "eminently deserving of encouragement and co-operation from the Government;" and it was desirable that railroads in India should be constructed and managed by means of private enterprise and capital. Court of directors, in their two consecutive historic dispatches on 7th May 1845 and 8th May 1845 addressed to Governor General of India and Chairman of provisional committee of East Indian Railway respectively, would admit the need of constructing railways in India, after years of inaction and reticence; and signal their commitment to facilitate its operations and promote the success of the undertaking, unleashing the Railway revolution in the country.

It was the year when court of directors of East India Company would lay guidelines for construction of Railways in India, would dispatch an eminent engineer to conduct an investigation, to select some feasible line of moderate length as an experiment for railroad communication in India and ask the Governor General to send his report on viability of Railways in the country.

The year would witness mad scramble to float companies for construction of Railways in India, close on the heels of EIR.

Promoters of Great Indian Peninsular Railway Company, Great Western Railway of Bengal Company, The Calcutta and George's Point Railway Company, The Madras Southern Railway Company, The Delhi, Meerut, and Ludhiana Railway Company, The Great North of India Railway etc would form provisional committees and come out with their share offerings in 1845 in an excited spirit of speculation.

Alarmed at the great Railway frenzy, Board of directors of East Indian Railway Company would come out on 24th October 1845 with a new prospectus, a new claim, and an increased capital to ward off competitors, increase the share capital and adopt measures to stamp its premier position.

1845 was the year when Mr. Simms, the Government engineer and Macdonald Stephenson would arrive by Steamer "Hindustan" and start the surveys and enquiries in order to ascertain the best and most practicable line in India.

Proposal to Court of Directors:

After returning to England in the year 1844, Stephenson had entered into communication with the leading commercial houses connected with India, who formed themselves into a Committee on the subject. All these gentlemen concurred in the vast importance of the undertaking in a political, commercial, and social point of view; but after much and anxious deliberation, all equally agreed in the conclusion, that the object was too vast and too distant, and the returns too uncertain and remote, to admit of any well-grounded expectation that the capitalists of this country would be

induced to invest money in it without direct pecuniary assistance from the Government of India. It was true that the advantages to India, to British rule there, to commerce, and even to Great Britain herself, by the introduction of railways into India would be immense; but the general public knew little and cared less for such matters.

Capt. A. S. Waugh, Surveyor-General of India had pointed that the benefit to the country generally, and the great advantages which would accrue to the state in a military point of view, might induce the Government to lend support to the scheme, and without such support it would be impossible to raise the necessary capital, because there was not sufficient local wealth ; and, on the other hand, European speculators could not be expected to embark in the scheme without the guarantee of the Government. -- **August 10, 1844, Letter to Stephenson.**

The promoters quickly realized that English capitalists were not prepared to risk their funds upon a doubtful enterprise at the distance of half the globe, over which they could exercise little control, and which was too likely to fall a victim to local jobbery and speculation. It soon became evident that, without a direct guarantee from the State, the establishment of railroads in India would remain a pipe dream.

They merely desired a safe investment at a fairly remunerative rate of interest; and so great was the want of confidence in such distant schemes as railways for India, that it was known that the attempt to raise money without the guarantee of some certain fixed rate of interest would certainly end in failure. -- **The Railways of India by Edward Davidson.**

In this state of things, it was deemed expedient to enter into communication on the subject with the authorities of the East India House, and various interviews took place between Sir George Larpent, the Chairman, and Mr. Colvin, the Deputy Chairman, of the provisional Committee formed for the purpose, together with Stephenson, and the Chairman and Deputy Chairman of the East India Company.

At these interviews, the necessity of a guaranteed return on the capital to be raised was enforced on the authorities of the East India House as an indispensable inducement to the investment of money in the undertaking, a principle which appeared to be understood and admitted by them.

At a meeting on the 25th February, 1845, the following resolution was passed by the Provisional Committee:—"That the guarantee of the East India Company to the extent suggested, or some equivalent pecuniary assistance and indication of the approval of the Court of Directors, is a preliminary and indispensable condition to the proposed measure." -- **The Railways of India by Edward Davidson.**

But although the proposal was encouraged at the India House by Mr. Shepherd, by Sir James Hogg, and by the

great secretary, Mr. Melvill, some of the most influential of the Directors, and more especially Mr. Tucker, the leader of the Old India party, scouted the idea of any such innovation. -- **The Quarterly Review, 1868.**

It was at first proposed to the East India Company and the Board of Control, that the pecuniary assistance required should be given in the shape of a guarantee of a certain interest at the rate of 3 or 4 per cent upon all sums expended on the railroad, for a given period, or until the road should prove remunerative. -- **Letter to R. Macdonald Stephenson, Esq. D. I. Noad, Secretary, dt. 14th July, 1845.**

Serious objections to this mode of assistance having been raised by Her Majesty's Government, it was subsequently proposed at a meeting with the Chairs of the East India Company that the Railroad Company should accept, in lieu of such guarantee, a rate of mileage for a term of years nearly equivalent in amount, and which might be hereafter mutually agreed upon in India.

Sir George Larpent formally informed John Shepherd, the Chairman of the Court of Directors of the East India Company, that proposed work could be undertaken only if Indian Government provided pecuniary assistance and identified with the scheme of constructing Railways in India. He pointed out that the state of India was, quite different from other British dominions in all respects, and the course to be adopted in the construction of the first Indian Railway could have no bearing on the practice to be adopted in similar works in this country. India was, and always had been, entirely dependent on the Government for public works, and the Committee were satisfied that there did not exist the means there of raising the funds for an under taking of this nature.

The Committee suggested a guarantee of a very low rate of profit for a limited time, as the mode was likely to be the most satisfactory to British subscribers and would cause least inconvenience to the Government. Considering that the Government itself would probably make very considerable use of the Railway for the conveyance of mails, of Government stores and troops, the guarantee might fairly be considered as a payment for these services.

Larpent said that this appeared to be most desirable course but the Committee was willing to consider any other scheme, affording equivalent pecuniary assistance, and indication of the approval of the Court of Directors of the East India Company.

James C. Melvill, the Secretary of the Court of Directors wrote to Larpent, and Stephenson, on the 8th May 1845, communicating court's historic decision and despatch to Government of India, which would pave the way for construction of Railroads in India.

There was a widespread belief that construction & working

of Railways in India would face unforeseen challenges due to peculiar climatic & geographical conditions and it was essential that definite scientific information be collected on spot by a competent engineer to examine feasibility of Railways in India.

Court's dispatch to Government of India

“Court of Directors wrote to Government of India (Governor General of India in Council) on 7th May 1845 that general principles had been framed to regulate construction of Railways in India and they had received applications of Mr. Stephenson dated 2nd December 1844 & 13 December 1844 (with enclosure) and proposals of Sir Larpent, Chairman of the proposed East Indian Railway Company and Sir Stephenson dated 30th December 1844 & 28th January 1845.”

The Court observed that the advantage of Railroads was available only where proportionately large returns could be obtained to meet the great expense, first of constructing, and then of working them. They pointed out that in England; by far the largest returns were procured from passengers; the least from the traffic of goods. The condition of India was in this respect directly the reverse of that of England as Instead of a dense and wealthy population, the people of India were poor, and in many parts thinly scattered over extensive tracts of country.

But, on the other hand, India abounds in valuable products of nature, which are in a great measure deprived of a profitable market by the want of cheap and expeditious means of transport. It may therefore be assumed that remuneration for Railroads in India must, for the present, be drawn chiefly from the conveyance of merchandize, and not from passengers.

The court of directors stated, that wherever railroad communication could be advantageously introduced and maintained, it was eminently deserving of encouragement and co-operation from the Government. Apprehending the physical obstacles which were to be overcome or neutralized before a system of railways could be carried into execution in India, they suggested that the first attempt should be made on a limited scale in view of difficulties peculiar to the climate and circumstances of India & other difficulties common to Railroads in all countries.

These peculiar difficulties were classed under the following heads; viz.

- 1st. Periodical rains and inundations.
- 2nd. The continued action of violent winds, and influence of a vertical sun.
- 3nd. The ravages of insects and vermin upon timber and earth -work.
- 4th. The destructive effects of the spontaneous vegetation of underwood upon earth and brick -work.

5th. The unenclosed and unprotected tracts of country through which railroads would pass.

6th. The difficulty and expense of securing the services of competent and trustworthy engineers.

The Court of Directors decided to depute to India a skillful engineer, fully and practically acquainted with the construction and working of Railways in this country, and, if possible, in America likewise, to be associated with two fully qualified serving engineer officers, to be selected by Governor General, to conduct the investigation required. The court felt that accurate investigation should be conducted by the competent person on the spot due to lack of definite and scientific information relative to the applicability of railway communication to India.

One of the mandates of this committee was to suggest some feasible line of moderate length as an experiment for railroad communication in India. Court requested Governor General to offer his remarks while submitting the result of the proposed investigation, and also specify the nature and terms of the charter to be granted to any Railway Company in India, which might desire to undertake such a Railroad. Court further enjoined Governor General to put his comments & opinion on the result of the proposed investigation and suggest the mode in which a similar charter from the Crown might be best brought into concurrence and harmony with that granted by the Indian Legislature.

In the applications addressed to East India Company, it was contemplated that Railroads in India would be constructed and managed, like England, by means of private enterprise and capital. Court of Directors agreed with the view but desired that the Government should have the command of railroad communication for its own purposes, on payment of a reasonable remuneration, and that at least the great trunk lines should, on settled terms, be liable to become ultimately the property of Government.

They further desired that detailed plans and estimates of the intended line of communication should be submitted for examination to the Government. The constitution and terms of agreement of the proposed Company be in like manner submitted to the Government and the books and accounts of the Company be at all times kept open to the inspection of officers to be appointed by the Government. The rate of profit was not to exceed a proportion to be fixed; and the Government would have power to reduce the rates of conveyance, so as that they may not exceed that proportion. The Court stated that the Government would, by all proper means, facilitate the surveys, and other operations of the Company, as well as the necessary purchase of land, and generally promote the success of the Undertaking.

With regard to a guaranteed return on the capital laid out, the court informed that decision would be taken only after receipt of above information and Government would take

into consideration the mode and extent of such pecuniary assistance towards the execution of at least the first approved Line of Railroad in India. -- Dispatch addressed by the Court of Directors of the East India Company to the Governor -- **General of India, Legislative Department, 7 May (No. 11) 1845.**

The dispatch signaled court's firm intention to encourage construction of Railways in India. It reflected that the Court of Directors had come to the conclusion, as expressed in it, that the railroad system was "eminently deserving of encouragement and co-operation from the Government;" that the returns most to be relied on for profit, according to the experience of English railways, were not for the present to be expected; that it was desirable that railroads in India should be constructed and managed, as in this country, by means of private enterprise and capital. The Court of Directors desired that some feasible line of moderate length should be selected as an experiment for railroad communication in India and subsequently the detailed estimates, as well as the terms of constitution of the Company, should be submitted to the Government.

The decision of East India Company of sending out a skillful engineer, fully and practically acquainted with the construction and working of railways was widely welcomed as it was believed that Stephenson was somewhat premature and sanguine in the encouraging estimate which he formed, both of the probable difficulties and expenditure to be encountered in the construction of the proposed line and of the expected returns. It was hoped that from their inquiries, some much more practical information on the subject would be found than currently available:

“ *And when it arrives we trust the Government of India will be in a position, and feel it to be their duty to carry out the project upon a scale, and with a magnanimous purpose, commensurate with the magnitude of the interests involved in it.* **”** – **Railway Register 1846**

In addition to the physical impediments & peculiarities, mentioned above, other issues like instability of soil and variations in the surface were apprehended, these presenting features of a character wholly distinct from the ordinary difficulties which present themselves in climates and regions such as those of France, England, and other European countries. -- **Railway Register 1846.**

FORMATION OF EIR:

The Plan

Stephenson had proposed that chief management of such important undertakings in India be retained in England, giving only such delegated authority, and limited as well as revocable powers, to a few judiciously chosen, well-paid, and responsible persons, who would undertake to act as a local Committee, upon the instructions conveyed to them by the Board. He had engaged an eminent barrister in Calcutta to

carefully prepare and improve the draft of the deed of the proposed Rail-way Company to avoid the disasters of preceding speculations, which Calcutta had been witness to. He felt that the employment of British capital in the development of measures, the resources of India, required the steady and judicious application of such capital, under sound, able, and honest management, to ensure to all parties the amplest returns, and to yield advantages far exceeding the limits of ordinary calculation and belief.

He also recommended that the proposed Company should be incorporated under the title of the "East India Railway Company," with a view to their carrying out in succession the several lines of Railway in India, which might appear desirable. The experience which the Company would have acquired in the construction of the first line, from Calcutta to Mirzapore, would enable them to undertake the other lines, under infinitely superior advantages and with much greater confidence, both on their own parts and on that of the public. He expected that, under judicious management, this Company would, at no distant period, become one of the most important and beneficially influential of any Railway Company yet established. He further suggested that, to prevent as much as possible, the speculation in shares, which a less amount be calculated to facilitate, that the shares should be fixed at not less than £250 each; as the payment of the several instalments would of necessity extend over a period of several years.

Formation of the Company

Encouraged by the response of the Court of Directors, and the general conformity of their views as evidenced in the despatch of letter to Governor General on 7th may 1845, the advocates of the railway cause felt justified in proceeding to the formation of an experimental Company to undertake the execution of the first line of railway in India on the basis of a return guaranteed by the East India Company.

East Indian Railway company was established on 1st June 1845 and promoters announced the result of their operations in this respect in a letter to the Court of Directors, as follows:

“ *We have the honour to inform you, that, in consequence of the intimation conveyed in the letter and minute of the Honourable Court, under date the 7th May last, and of the intention therein expressed on the part of the East India Company to give encouragement and support to Railways in India, and to a private Company established for the purpose of undertaking their execution, provided, on the result of proper inquiry, the scheme should appear practicable, a Joint Stock Company has been formed, with a Capital of four millions sterling, in the first instance, with power to increase it.* **”** – **Letter to J.C. Melvil, London, June 10, 1845.**

Deed of Settlement and Registration

The company was provisionally registered with Capital,

4,000,000/, in 80,000 Shares of 50/ each deposit 5s. per Share, being the largest deposit allowed by the Act 7th and 8th Vic., c. 110, which limited the deposits on shares in a Company, until final registration, to 10s. per cent. A portion of the Shares had been reserved for allotment in India, in order to secure the concurrence and co-operation of all persons by whom the undertaking could be advanced and promoted.

Board of Directors:

Directors of the Company, were closely connected and intimately identified with the interests and prosperity of the British Possessions in India; and, in apportioning the Shares in the Capital of the Company, great care had been taken to give it all the solidity and permanency which the importance of the undertaking demanded.

Sir George Larpent, Bart. (Ms. Cockerell and Co.) – **Chairman**

R. Gurney Barclay, Esq. (*Ms. Barclay, Brothers and Co.*), Alexander Beattie, Esq. (*Ms. Beattie and Co.*), C. D. Bruce, Esq. (*Ms. Fletcher, Alexander and Co.*), Sir John Campbell, K.C.H. (*Deputy Chairman of the Peninsular and Oriental Steam Navigation Company*), Major General Caulfield, C.B. (*late of the Honourable East India Company's Service*), Bazett D. Colvin Esq. (*Ms. Crawford, Colvin and Co.*), T. S. Kelsall, Esq. (*Ms. Kelsall and Co.*), John Pascal Larkins, Esq. (*formerly of the Bengal Civil Service, and President of the Marine Board*), Captain Alexander Nairne (*formerly of the Hon. East India Company's Service*), Edward Howley Palmer, Esq. (*Ms. Palmer, Mackillop, Dent and Co.*), William Scott, Esq., late of Madras (*Ms. Scott, Bell, and Co.*), John Stewart, Esq. (of Bombay)

R. Macdonald Stephenson, Esq. – **Managing Director**

Auditors — R. F. Gower, Esq. (*Ms. Gower, Nephews, and Co.*); Captain Farquharson, R.N. Bankers (*Ms. Glyn, Halifax, Mills, and Co.*)

Solicitors — Ms. Freshfield.

Consulting Engineer — J. M. Rendel, Esq., F.R.S.

Temporary Offices — 8a, Austin-friars.

The Company Prospectus

The company prospectus mentioned that the introduction into British India of railway communication had been justly regarded as one of the most important measures, both to the Government and to the public, which had ever been brought forward.

The result of these inquiries had demonstrated most satisfactorily-

1st. That a railway communication between the several principal cities of India would be attended with the greatest advantages to the Government and to the public, both European and native; and

2nd. that from the increased facilities of transport the demand for British goods would increase proportionately and the development of Indian resources be promoted.

Impressed with these considerations, the gentlemen who formed this association had various communications with the Court of Directors. The East India Company and her Majesty's Government were duly impressed with the importance of the subject, and that they had decided on sending out an eminent Engineer to undertake the preparatory investigations and surveys. They were also prepared to give the necessary encouragement and support to a Company to be formed for the purpose of undertaking the construction of railways in India, provided the result of the surveys should confirm the favourable impressions at present entertained by the Government of their practicability and advantage.

The object that the promoters of this undertaking have now in view, is to form a Company to be in a position to avail itself of an arrangement to be made with the East India Company for the execution of the line to be selected by them, provided that it shall be made apparent that it can be done with prospect of advantage to the undertaking.

The official correspondence which had taken place upon the subject with the Bengal Government, as well as the opinions of several of the principal commercial houses of Calcutta, and of the officers in the service of the East India Company, with the whole of the official returns, and other detailed information respecting the extent of trade, and the number of passengers upon this line, were included in the report of Stephenson.

The operations of the Company were to be under the direct superintendence of the Government of Bengal: and the working thereof to be subject to the inspection and sanction of their officers, so as to bring the arrangements into a position as nearly analogous to that of the British railroads, under the Board of Trade, as the different circumstances of the two countries might render practicable. The management of the affairs of the Company would be vested in a Board of Directors in London, who would appoint one or more local committees selected from among the most respectable and influential parties in India, to whom they would delegate such powers as may be necessary for the purpose of effectually performing the duties imposed upon them.

The Board in London was to consist of a Chairman, Vice-Chairman, and Directors, who would have the entire management of the Company's affairs, with power to appoint one or more of their body as managing directors. Half-yearly meetings of the shareholders will be convened for the purpose of declaring a dividend, and to report the proceedings of the directors and the state and progress of the company's operations. The qualification of a director was to be twenty shares, of an auditor ten shares. The dividends

were to be paid in London or Calcutta at the exchange rate of xx per-rupee. The instalments were to be called for in the following proportion: On allotment of shares, 5s. per share, and the remainder at intervals of not less than three months, or above 5l. per share at one instalment. In the arrangement contemplated to be made with the East India Company, the exertions of the board will be directed to the object of obtaining interest to the shareholders in the interval between the commencement and opening of the first line of railway undertaken.

Application for Shares

The deposit to be made on subscription was to be 5s. per share, which was the extreme amount allowed to be taken as a deposit on a share of 50l by a company previous to complete registration. A subscription contract was to be prepared, to be executed by the Shareholders. The Company had intended also to apply for a Charter of Incorporation or Act of Parliament.

In the event of the negotiations with the Bengal Government not being in all respects satisfactory to the Board, the principal sum subscribed were to be returned to the Shareholders, less the amount expended in preliminary expenses, including those already incurred by Mr. Stephenson.

Applications for Shares were to be made in the annexed form to Mr. Stephenson, the Managing Director, to Messrs. Lawrence, Cazenove and Co., and to Messrs. Garden and Whitehead, Stock and Share-brokers, and no application was to be attended to unless accompanied by a reference.

EIR shares received enthusiastic response from the investors and were oversubscribed. A notice had to be published in the papers expressing inability of company to entertain all the applications received. Upwards of 140,000 shares in the East Indian Railway Company have already been applied for, being 60,000 in excess of the entire number required for the undertaking, 30,000 of which it is proposed to reserve for India. -- *Allen's Indian Mail 1845*



“ *The directors regret their inability to comply with the applications of many parties of high respectability and that they have been compelled in almost every case to abridge the number of shares allotted. Persons who have applied for shares, and who do not receive letters of allotment, are requested to consider this advertisement as an intimation of the inability of the Directors to entertain their applications.* **”**

By order of the Board,

R. MacDonald Stephenson,

Managing Director, 8 A, Austin Friars, 14th June, 1845

Fourteen members were named as the Calcutta committee and the Harkaru said that the large list showed total absence of any feeling of jealousy by London Management and then proceeded to show why there should not be any jealousy, observing that, the India General Steam Navigation Company has a similar arrangement, only the principal management is here, the subordinate agency in England — a difference which exactly reverses the arrangement. -- *Bradshaw Railway Gazette, 1845.*

Meeting of EIR Board

Board of directors of East Indian Railway Company conducted a meeting on 22th October 1845 primarily to ward of competitors, increase the share capital and adopt measures as would have the effect of securing to the Company the benefit of their original scheme in its full integrity position. It was unanimously resolved that:

1. The East India Railway Company was formed in the spring of this year, after many months of preliminary discussion and communication with official authorities, for the purpose of carrying out the views and objects of the projectors in the introduction of railways into India.
2. That the promoters of the undertaking abstained from adopting any measures towards the formation of a company until they had satisfied themselves of the disposition of the Government of India to support the under taking by pecuniary aid in some shape, on which basis this Company was accordingly established, its object being as stated in the prospectus) to execute the line of railway which should be selected by Government, with the ulterior extensions and developments consequent upon it.
3. That in furtherance of these views, the Managing Director of this Company proceeded to Calcutta in the month of July last, accompanied by a staff of surveyors, for the purpose of making the necessary surveys, obtaining the requisite information, and of ascertaining the views of the local Government, prior to the final arrangements for commencing operations.
4. That the information obtained in the course of several years of preliminary inquiry, inclined the projectors to the belief that, subject to any unforeseen circumstances, the

line from Calcutta to the north - western provinces, by Mirzapore, was the most needed by India, and most calculated to yield a profitable return for investment of capital, and it was therefore that line which was advocated in the first communication with the Government, the selection being left to the Government.

5. That subsequent to the formation of this Company, various projects have been announced to the public for constructing railroads in Western India, some of them forming part and portion of the scheme of the East Indian Railway Company, and to which the surveys and the operations of the Committee in Calcutta may possibly at this moment be directed as an important feature in the design of Government.

6. That under these circumstances it appears to this Board to be their imperative duty in the interest of this Company, to adopt such measures as will have the effect of securing to the Company the benefit of their original scheme in its full integrity.

7. That with this view, and in order to prove to the Government of India their full means of carrying out any arrangements which it may be disposed to make with this Company for the construction of railways on an extended scale (in the event of its being essential to the scheme of the Government so to commence), it is desirable that the capital of this Company should be increased to 10,000,000/-, by the issue of new shares .

8. That 120,000 shares of 50/- each be created, on which a deposit of 5s. will be forthwith payable; that of this number 80,000 shares be distributed ratably among the approved holders of the scrip already issued, in the proportion of one new for one old share; and that the remaining shares, subject to the necessary allotment to the new directors, be reserved to be disposed of hereafter, as may be found advantageous for the interests of the undertaking.

9. That these resolutions be advertised in the daily newspapers, for the information of the proprietors and the public.

George Larpent, Chairman.

The Criticism

The magnitude of the objects of the company had become a topic of vituperation. It was called greedy, grasping, over-reaching; it arrogated a monopoly. Accusations of this kind were premature, while all the terms of contract between any company and the public or government were unsettled, Calcutta Review said.

Calcutta review remarked that great caution would be necessary on the part of the legislature and government as it could detect haste and all the errors in the schemes before the public, in the train of an excited spirit of speculation.

“The general railway act of parliament limits deposits until

final registration to ten shillings per cent, or ten shillings upon a 100/ share. Accordingly, we find the deposit of the East Indian Railway Company five shillings. But in the headlong haste with which several have followed their leader, this regulation has been overlooked or disregarded: there are shares of 40/ upon which five shillings is called for.” -- *Calcutta review 1845.*

The Great Railway Rush

The eagerness with which the English public responded to share offerings of EIR; the price to which the promised scrip rose; the belief that only a portion of the vast territories of India had been monopolized by this company; the admitted difficulties of the line, and the very prevalent fear that if made, it must be made as a whole line in order to pay as a rival to the Ganges soon brought auxiliary and rival schemes before the public. For Bengal started the Great Western of Bengal and the Great North of India, the Calcutta and George's Point and the Delhi, Merut, and Loodheana. For Madras there was the Madras and Arcot, and the Madras, Calcutta, and Bombay, whilst Bombay had its Great Indian Peninsular, and Bombay, Agra, and Delhi. Bengal and the North Western provinces had to deal with four projects, between themselves proposing a line from the mouth of the Hoogly to Loodheana, with a branch of some 180 miles from Calcutta to Rajmahal.

The Loodheana, Meerut, and Delhi never rose beyond a room on a second floor of an attorney's office, in a street out of the Strand, and its projector and manager, Colonel Steinbach, wisely returned to the Punjab where he had commanded a regiment of Runjeet's body guard, and where he now heads Gholab Singh's contingent on the Banks of the Jhelum. -- *Simmond's Colonial Magazine, 1849.*

The Calcutta and George point Railway was the Ship owners line from Calcutta to Diamond harbour. Headed by Lord Combermere and supported by the late Mr. Green, for a time it flourished, until like all other lines it fell on the troublous times of the railway panic, provisionally wound itself up and returned a fair percentage to its shareholders, reserving just enough to keep it alive as an existing though dormant company.

The Great North of India and its history entwined itself with that of its eventual rival the Great East Indian and its above ally line, the Great Western of Bengal. The necessity of a line from Allahabad to Delhi, and its peculiar advantages, from the easy nature of the country through which it would run, and the populous towns which it would connect, soon suggested itself to several old Indians who had long resided in the North - Western provinces. The natural consequence was the projection of the Great North of India.

In October, the project was submitted to the East India Company, accompanied by a strong letter from the solicitors of the new project, claiming a priority of registration for that

portion of India. The reply was a curt refusal to enter into correspondence with any parties in England, pending the reference of the whole subject of railways to the Governor-general.

Awakened by the public meeting, and, peradventure, by the knowledge of the project having been sent in to the India House, the original East Indian came out with a new prospectus, a new claim, and an increased capital. On the 24th October appeared another prospectus from that company, outlining their strategy to maintain their premier position.

The fourth paragraph of prospectus said that the line from Calcutta to the North Western provinces, by Mirzapooore, was the most needed by India, and most calculated to yield a profitable return for investment of capital; and it was therefore that line which was advocated in the first communication with the Government, the selection being left to the Government.

While the fifth paragraph of prospectus stated that subsequent to the formation of this company, various projects had been announced to the public for constructing railroads in Western India, some of them forming part and portion of the scheme of the East India Railway Company, and to which the surveys and the operations of the committee in Calcutta might possibly at this moment be directed as an important feature in the design of Government.

In the sixth and following paragraphs they announced their intention of increasing their capital from four to ten millions, not for the openly expressed purpose of completing their line from Mirzapooore to Delhi, but undisguisedly with the purpose of driving the projectors of all other railways, even those of Western India, out of the field, and of monopolising to themselves the only railways the Government of India might think it necessary to call for.

Legal Quandary:

After the positive signal from Court of Directors of India house, there was a frenzied rush to form companies for constructing Railroads in India. In 1845 apart from EIR, promoters of Great Indian Peninsular Railway Company, Great Western Railway of Bengal Company, The Calcutta and George's Point Railway Company, The Madras Southern Railway Company, The Delhi, Meerut, and Ludhiana Railway Company, The Great North of India Railway etc would also come out with their prospectuses and share offerings. The prospectus of one of such Railway company - the 'Great Indian Peninsular Railway Company: contained a statement, that ' the registrar of joint stock companies is satisfied that the company is not within the operation of the 7 & 8 Vict. c. 110, and therefore does not require to be registered.'

under the head of foreign railways, since it was formed with a distinct class of English shareholders and a committee and funds separate from the foreign arrangements. It having been settled, however, that the Act did not apply, the limit of 5s. per share as a deposit was avoided, and £ 2. 10s, was expressed in the prospectus.

This announcement created considerable sensation and public debate, as it was well known that the directors of the East Indian Railway, acting on an opinion the reverse of the above, and under the impression that the company was in fact within the meaning of the Act, had, in compliance with its provisions, notwithstanding the prejudice the smallness of the deposit was calculated to engender, limited the deposits to 5s. per share. The subject, however, was of too much importance to be left in any doubt, and the directors instructed their solicitor, Mr. Freshfield, to place the following case before the learned counsel to obtain legal opinion. The learned counsels, was of the opinion that the company was within the purview and provisions of the Act 7 & Viet. c. 110. The general powers of that Act were, by sect. 2, declared to apply to all joint-stock companies established in Great Britain except Scotland. EIR was a company established in Great Britain for purposes of profit, and appeared to be not within any of the cases which are excepted from that Act.

Visit of Stephenson to Calcutta

Having officially intimated to the Court of Directors the formation of the East Indian Railway Company, the Board proceeded to make arrangements for dispatching Mr. Stephenson, with a Staff of Engineers. Stephenson was to co-operate with Mr. Simms, the engineer selected by the East India Company in the preliminary inquiries and to complete the survey of the Line from Calcutta to the North-West Provinces, which the Board of the East Indian Railway Company had from the outset anticipated would be the Line on which the Indian Government would decide as the first to be undertaken. D.L. Noad, Secretary EIR, wrote a letter on July 14th, 1845 giving detailed instructions to Stephenson for his guidance in carrying out the mission in India. Three surveyors, namely - Thomas Henry Duncan, T. W. Collett, and W. Romaine, were sent out by the Company with Stephenson, and were placed under his direction, and were subject to his orders.

Upon his arrival in Calcutta, Stephenson was to immediately place himself in communication with the Governor General in Council, to whom a letter announcing the formation of this Company, and Stephenson's mission to Calcutta, was transmitted by the last overland mail. He was directed to lay before his Excellency the correspondence held with the East India Company and the Board of Control; and, finally, to state the terms upon which this Company was formed. The Board entertained a confident expectation that the Governor General, upon being made fully acquainted with all the circumstances, would extend official assistance, to enable

The railroad, though in India, did not necessarily come

Stephenson to carry out a project in which the interests of the Indian Government and of this Company were identical. The Board expected that Governor General would either associate Stephenson with the commission to be appointed to undertake the necessary surveys, or allow him the aid of officers in the Company's service, whose local knowledge and experience would enable him to obtain such detailed information upon the several engineering matters.

Stephenson was further advised to explain to His Excellency that, in the correspondence with the East India Company, and the members of EIR both before and since its formation, it was distinctly stated that the chief inducements for the latter to come forward and to place themselves in a situation to raise the capital were, firstly, the support of the Indian Government and, secondly, the prospect of pecuniary assistance in the commencement of operations.

It was at first proposed to the East India Company and the Board of Control, that the pecuniary assistance required should be given in the shape of a guarantee of a certain interest at the rate of 3 or 4 percent upon all sums expended on the railroad, for a given period, or until the road should prove remunerative. Serious objections to this mode of assistance having been raised by Her Majesty's Government, it was subsequently proposed at a meeting with the Chairs of the East India Company that the Railroad Company should accept, in lieu of such guarantee, a rate of mileage for a term of years nearly equivalent in amount, and which might be hereafter mutually agreed upon in India. This proposition had appeared at a meeting between the Chairman of this Company and the President of the Board of Control, to remove the difficulties entertained by the Earl of Ripon, in carrying out the guarantee - plan; and it was the impression of those who acted for this Company, that both authorities, the East India Company and the Board of Control, admitted the justice of some pecuniary assistance being afforded.

If such should prove to be the case, it would be desirable to enter into an arrangement with the Government based upon the foregoing suggestion, leaving the details for further discussion when the nature of the plans should be more fully developed, the Board suggested. Stephenson was authorized, subject to the ultimate approval of this Board, to make such terms as may appear equitable alike to this Company, and to the Indian Government, if His Excellency required an immediate decision upon this point, as the groundwork of future arrangements. It appeared to the Board, that an arrangement on this basis could hardly be otherwise than satisfactory to the Government. It was obvious no Company formed upon a reasonable principle, and with a bona fide intention of carrying out such projects as Railroads in India, could be expected to undertake the execution thereof without some provision for the capital employed in the long and uncertain interval that must elapse before the line can be productive.

To accomplish such works, the aid of British capital is requisite; and once admit the expediency of railroads in India, it must also be admitted to be a wise and politic measure to ensure the flow of capital to India by affording to the capitalist, an immediate, though moderate return for its use. And the Board would venture further to urge that the economic benefits which the Government must eventually derive from the establishment of railroads offer, in a merely pecuniary point of view, certain remuneration for the annual payment suggested.

Stephenson was also requested to convene a meeting of the gentlemen to whom it had been proposed to act as a Local Committee in Calcutta, to explain the views of the Company, to lay before them the correspondence which has passed between the East India Company and the promoters of this undertaking, and to request their full and hearty concurrence in the furtherance of the scheme. The Board had provided him list of gentlemen in whose disposition and ability they had the fullest confidence, and who were expected to give their best assistance in promoting a measure so important and beneficial to Indian interests. Board desired that the Committee should consist of as large a number of influential persons at Calcutta as can be associated together with full effect to the promotion of the object, more especially as other Companies had advertised themselves since the formation of this Company, announcing objects similar to those previously laid down by the promoters of this undertaking. Stephenson was to place in the hands of the Committee the scrip-shares reserved for distribution in Calcutta, amounting to 10,000, and request them to adopt such measures at their discretion as might ensure their appropriation among the persons in India most likely to promote the true interests of the undertaking. The scrip-shares to be thus issued were to be counter-signed by one member, at least, of the Local Committee. The amount of deposit upon the shares in India was fixed at three rupees per share, and future calls were to be made at such a rate of exchange as should assimilate as nearly as possible the cost and value of the railway stock in the two countries. The Committee in Calcutta would take care that an account was opened with some responsible Banker or Bankers to be selected by them in the names of the Committee of the East Indian Railway Company, or any five of them, to which the deposits collected should be paid, and that all cheques an account of expenses incurred for the purposes of this Company, should be signed by three of the Members of the Local Committee. Stephenson and committee were advised to ensure the strictest possible economy in carrying out the surveys and preliminary measures in India.

The Act of last Session, for the Regulation of Joint-stock Companies, had limited the collective amount of deposit on shares in the Company until final Registration to £ 20,000. Of this sum £ 15,000 had been raised in England, of which £5,000 was already expended, without any provision for

Stephenson's salary, or that of the surveyors, for which, about £5,000 more had to be set aside. The court cautioned that operations should be brought within the compass of a twelve month, and everything should be done with strict regard to the present limited means of the Company. The Deposits on the shares sent to Calcutta amounted to £2500, which, it was hoped, would be amply sufficient to cover all expenses incurred by Stephenson in the surveys and all other expenses there, but should it become necessary to draw for a further sum, the Board would honour the drafts, counter signed by two Members of the Committee, to the extent in all of £, though they confidently hoped that it would not be necessary to make any further demands on the reduced funds in their hands. Stephenson was to apprise the Directors regularly of the progress and send by every mail, the minutest particulars of the steps taken and the measures contemplated and in progress. He was also requested to communicate with the Local Committees at Madras and Bombay upon all subjects entrusted to their care, sending home duplicates of the correspondence.

The Local Team

Government of India decided to adhere to the letter of the instructions received from Leaden hall street, and to nominate two engineer officers to assist Mr. Simms, the civil engineer, deputed to this country by the Court of Directors, in his inquiries. The earlier resolution of appointing a commission to co-operate with Mr. Simms, was not to be carried into effect.

Government have determined to appoint a commission to inquire and report on the subject, and Colonel W. N. Forbes, Colonel Cheape, Captain Greene, and Captain Goodwyn, with two civilians and two mercantile men, are to be the members. -- [Allen's Mail 1845](#).

It was called a wise decision on the part of Government as the undertaking would not be weighed down by a cumbrous and unwieldy commission, whose movements would probably be sluggish in proportion to its bulk, and might be impeded in no small degree by diversities of opinion. One paper commented that If all means and appliances were placed without obstruction at the disposal of the civil engineer and his assistant, and the two engineer officers appointed to aid him, the labours of the survey would proceed with rapidity, and be sufficiently advanced by the end of the cold season to enable Government to come to some determination as to the line of road to be chosen, and the mode of official co-operation; and thus insure the commencement of Railways in the country.

Captain Boileau and Captain Western of the Bengal Engineers had already been selected by the Government of Bengal to act with Simms. These three men formed a commission which commenced its duties by examining different areas in the country with the object of ascertaining the suitability of railways there.

Mr. John Fraser was appointed to fill the office of Assistant to Mr. Simms, on that gentleman's mission to India, to superintend the surveys with reference to the formation of railways in that country." -- [Allen's Mail 1845](#).

Stephenson had stated before the select committee that he had previously convinced the chairman of the East India Company, Mr. J. Shepherd that it was indispensable that the Government of India should have a practical and experienced engineer to advise them, to whom all railway questions should be referred.

“*Sim's arrival would be called a good omen for the permanent prosperity of India. "Bengal Hurkaru" reported that at Calcutta, Mr. Simms, the engineer, sent out from England with a view to the construction of railways, seemed resolved to stir up the good people of the City of Palaces to as much improvement as possible. The arrival of Mr. Simms and his coadjutors is a happy event for the gratification of readers and talkers, as it certainly is also a good omen for the permanent prosperity of India. A better selection could certainly not have been made, and the report of such men on the proposed line of railway will command, as it deserves, the most entire confidence. "Bengal Hurkaru" reported that Mr. Simms was already quite sanguine on the subject of an Indian railway, and seemed to anticipate no serious obstacles. He is evidently a person of great energy and enthusiasm, and his unquestionable sagacity and experience in his profession must always secure the confidence of the public in any scheme that he may think himself justified in recommending. We dare say that he will not quit India without leaving behind him some durable monument of his industry and science.*”

The paper reported Simms' surprise that so large and wealthy a city as Calcutta should be without a gas and water company, and hinted his opinion that gas and water might be supplied at a very moderate rate. Gas would do more for the protection of Calcutta from night robberies than the best constructed system of police. The office of the Bengal Hurkaru was, the only establishment in Calcutta in which gas had ever been introduced. -- [Allen's mail 1845, Vol 1](#).

Survey and Field Visits

Surveyors' Instructions

Stephenson had identified that survey should be initially carried on the Great trunk road, the established traditional route, accordingly Mr. T. H. Duncan, Mr. T. W. Collet, Mr. W. Romaine, Mr. W. H. M. Sweetland, Mr. H. Michell, Mr. Robeiro, Baboo Ramgopaul and Assistants were directed to proceed together, with all convenient speed, to the Soane river, by way of the great Trunk Road. Mr. Collet, Robeiro, and party, were to work down from Soane to Calcutta in the direction of the Trunk Road, through or near to Burdwan, Hoogly, Chinsurah, and Serampore, to note the number, width, volume, velocity, high and low water marks at periods of food and drought — the banks and bed - soil and general

character of all the rivers, nullahs, and water courses. To examine the low ground in the plains of Bengal and Behar, subject to annual inundation, noting the extreme heights of the waters, and the nature of the superficial soil and substrata. To ascertain the average height to which Embankments should be raised, and the general description of foundations which it will be expedient to construct to provide against, and secure the Railway, from the extreme effects of the periodical flooding to which that part of the country is exposed.

Mr. Collet was to examine a line branching from the Trunk Road, at or near the Raneer Gunge Collieries, taking the direction of Culna, at or about equal distances between the Adji and Damooda, and report the comparative advantages of this over the more direct line through Burdwan, with reference to the height and action of inundations, and overflow of these and the adjoining rivers. Accurate Levels of the range of hills, commencing at or near Noorunga, by Sheerghattee, the Dunwa Pass, Bheega and Sentoorpee, to their termination near Parisnauth, were to be taken carefully observing the formation, dip, and general characteristics of the several descriptions of Rock which constituted this range. In the event of the gradients presenting sufficient obstacles to induce the adoption of a more circuitous direction, the alternative lines shown on the plans, were to be examined, and trial lines run for comparison with the levels taken in the first instance. Daily progress was to be recorded in a Diary and a report of the month's proceedings, and a duplicate of the observations, and levels taken, were to be transmitted monthly to Stephenson for his guidance in varying or modifying these Instructions. Geological Specimens to be collected wherever practicable, but not in any case which shall entail delay of, or interference with, the primary and principal object in view. Notes in regard to Timber, Stone, Kunker, and Brick Clay — their approximate cost, and available extent, to be taken along the entire line.

Mr. Duncan, Mr. Romaine, Mr. Sweetland, Baboo Ramgopaul and party were to at once proceed to examine the Soane river at the, several points indicated on the plan, viz., opposite Sasseram, where the high, road crossed the river - at about nine, and again at about eighteen miles, higher up - taking sections at each place of the river, its banks, and of the adjoining lands — noting all points referred to in the former part of these Instructions, and considering the subject with a view to the practicability, with greater or less advantage, of the Railway crossing the river at either of these points. The bed of the river was to be very carefully examined — and at a later period, when the waters would admit of it, the substratum to be ascertained at each point, and the depth and peculiarities of the sand accurately observed. Stephenson wanted to personally inspect the river bed when the waters had fallen sufficiently to make the examination. Mr. Duncan and Baboo Ramgopaul were to proceed to Benares by the direct road, to take the levels, and

note the several other points already specified. Baboo Ramgopaul was to rejoin Mr. Romaine's party, and Mr. Duncan to await arrival of Stephenson at Benares.

Mr. Romaine and party were to proceed to Sasseram, and to branch off at about seven miles from that town, in as direct a line as possible to Chunar, skirting the hills, and to take the necessary observations to enable a determination to be come to in respect of this line, which *cæteris paribus* offered advantages over the other. From Chunar the line to a point on the river opposite Benares was to be examined, and an inspection of the Ganges at or near Benares, to be made, in case it should be deemed expedient to cross the river at that point, as a part of the direct and main line, or as a branch for the benefit of that city and the country adjoining it. Survey should be continued between Benares and Allahabad to obtain the necessary information respecting the relative facilities which may be afforded for crossing either the Ganges, or the Jumna at Allahabad. In case of multiple alternative lines, trial lines should be run in the several directions shown on the plans between Mirzapore and Rotasghur on the Soane, proceeding along the valley of the Kurrumnassa, and selecting the lowest levels at which it was possible pass the range of hills lying between these two points.

Mr. Collet, on his return to Calcutta, was advised to prepare a full and detailed statement of his observations, accompanied with drawings of the road, rivers, levels, to the following scales: Horizontal scale for sections, four inches to a mile. Vertical ditto ditto, one hundred feet to an inch. Scale for general Maps of country, half an inch to a mile. Scale for sections of rivers, ten chains to an inch. For Nullahs, &c. six chains to an inch. The same scales were being observed on all the drawings. Mr. Romaine was to follow the same instructions on his return to Benares, and there await further directions. Mr. H. Michell was to proceed with the other parties to the Soane - to ascend the river to Agoree, in the vicinity of the Mirzapore Coal Field, and to return by the other bank to the Trunk Road and to Calcutta. Mr. Michell was to utilise his geological experience and information in the survey and ascertain correctly the different geological features of the country through which the line of Railway would pass. The proportionate cost and labour, required for the working of each description and facilities of access for working Stone, Slate, or Lime Quarries, and Coal or other Mines—the cost at each of several stations, of Kunkur and Bricks, were to be carefully noted. Mr. Mitchell was to examine the banks of the Soane with a view to determine data for selecting the most advantageous point at which secure foundations could be obtained for carrying the Railway across.

To collect in triplicate Geological and Mineralogical Specimens, numbered and named as they are known in the districts in which they are found. - Mr. Michell will call upon Captain Wroughton, the Deputy Surveyor General, and upon

Dr. J. R. McClelland, two gentlemen of high geological attainments, who have been requested to give their advice and assistance in directing these inquiries.

R. Macdonald Stephenson, Calcutta, 25-09-1845, Managing Director, East Indian Railway Company.

The above instructions were later modified, and extended from time to time according to circumstances. Mr. Duncan proceeds to set out the Line from Allahabad to Delhi. Mr. Romaine superintends the borings and examination of the bed of the Soane river. Mr. Collet will ascertain the most advantageous terms upon which timber can be supplied from several forests indicated; and Mr. Sweetland has been sent to the Nerbudda Valley. Mr. Measam remains in Calcutta to superintend the instruction of the Road overseers - Burdwan was chosen to be the first locality to be examined where Simms and Western paid an early visit. Any railway passing through this area, it was feared, would be subject to the injurious effects of the annual floods of the river Damodar and the purpose of the visit was mainly to ascertain the extent of these effects. But, the intended examination could not be carried out since the flood water of that season had not subsided as yet. Simms and Western next examined the areas between Calcutta and Bhagwangola. -- **T. H. Maddock, Deputy Govr. of Bengal, to Court, 4 Oct. 1845, Paras 9 and 10, Rly. Letts. Enel., Vol. I.**

A careful examination was to be made of the bunds of the river in that part of Bengal. Before the arrival of Mr. Simms, the Governor General, with great shrewdness and foresight, had given instructions to have the rise of the river marked along the whole proposed line of railroad. It had saved Mr. Simms the necessity of making a comparatively useless trip in the rainy season.

A letter had appeared in Englishman written by one of the members of Mr. Simms's team, dated 16th October, 1845, giving an insight into the pace of survey:

11th October - We arrived yesterday at Culinah, from whence we proceeded to Mirzapore in the same night, which we reached the following day. We are really travelling at a railroad pace, namely, ten miles a day, five in the morning, and the other five in the evening. We are not to go so far as Agra, as was at first contemplated, and out, return, therefore, at the presidency may be expected in the course of three months, or a little more.

16th October - We have been detained at Mirzapore on account of the rain, which is pouring in torrents; but if this prove to be a fine, clear day, we shall leave this for Burdwan. -- **Englishman, Oct. 23. 1845.**

Simms would travel over the entire region from Calcutta towards North West provinces in the cold season of 1845 to explore the best route for rail communication and realise that the construction of the line between Calcutta and Mirzapore would probably cost more than a casual observer might, from the appearance of the country, suppose; for,

although the earth works would (with few exceptions) be light, the masonry works, to cross the rivers, would be heavy.

Survey of River Soane

Bridging river Soane was the most formidable technical challenge before East India Railway Company and Stephenson solicited professional advice of Simms regarding examination of bed of river Soane. Simms replied that most satisfactory results were normally obtained by sinking a trial shaft, but this would be an expensive proposition as it would require great deal of pumping in river Soane. There could be but little doubt that a sufficient foundation could be found, or made, at some reasonable depth below the surface. Trial shafts should be sunk when it becomes necessary to determine the precise spot over which the bridge is to be erected, and the best mode of doing it can only be determined at the time. Further opinion, he would be able to give on the spot and he was expected to reach the Soane in about a fortnight.

Media Support

The Railway proposal received enthusiastic support of leading Indian newspapers and they launched a sustained campaign to create favourable public opinion and urged the authorities to encourage formation of Railways in India. Commenting on the military benefits, it said:

“ Let India be intersected by well-designed and well-constructed continental lines of railway, and the effect will be the same as that of doubling, and more than doubling, the numerical amount of its army. ”

“ Those who have the command of steam and rail, the conquering agents which shrink the distance and time, could give effect to their will, at the distance of hundreds of miles, with nearly as much facility as within their own immediate neighbourhood. ” -- the paper wrote.

It pointed out that huge area of unproductive land would be prolific in consequence of the ready means of transport offered for its produce, if Calcutta was connected with the North -West Provinces by a railroad. If any part of Indian frontier was threatened with danger-does any internal disturbance called for military interposition, troops in any number, and with any quantity of baggage, might be transported from one side of India to the other in less time than being taken to move them from one province to that adjoining. The ground which now required many weeks of tedious marching might be passed over in a few hours—and with this advantage that the troops would arrive at the point where they were wanted without fatigue, fresh and fit for action as though they had just turned out of a neighbouring barrack, the paper pointed.

It is a trite remark, that to ensure peace, a nation should always be prepared for war, and in this view railways in India more especially are capable of affording the best assistance towards maintaining peace, and consequently towards maintaining the security if Government abstained

from the actual support of railways in India, there was reason to fear an indefinite postponement of their introduction; or what would be nearly as bad, a commencement followed by a sudden and long protracted check. Government should secure, in the first instance at least, that the work should be done, and well done. There should be no beginning and breaking off from failure of funds, or because the projectors, having made their market, had disappeared, and given way to others hoping to play the same game, but disappointed, the paper wrote.

“It would be said that railways in their practical working would be found more conducive to the comfort of the Indian traveller than even a state of rest. The strong currents of air caused by the rapid motion of a railway train is even in this country refreshing to the traveller in warm weather, and artificial means will probably, in time, be resorted to make these currents available for the ventilation of railway carriages in India.”

– The Railway Register 1846

As at high rates of speed currents can be obtained of such velocity as are beyond the means of ordinary ventilation in India by punkahs or fans, so it might become a matter of luxury to make an excursion in a railway train even in the hottest seasons, to enjoy the refreshing breezes of the moving atmosphere, the journal reported.

Communication with Court of Directors, India House

In the month of November, 1845, information would reach the East Indian Railway Company that the Line from Calcutta to Mirzapore and the North Western Provinces had received the approval of the Indian Government. Chairman of East Indian Railway company, shared the intelligence with James C. Melvill, Secretary East India Company on November 17, 1845 and requested to communicate the intentions of court of directors and the plans and views of the Government of India. He reminded Melvill, that the above Line, with its ultimate extension to Delhi; was advocated as the route most conducive to the political and commercial interests of the great empire of India in the communications which passed between Melvill on the part of the East India Company, and Stephenson and himself (Sir Larpent) on the part of the East Indian Railway Company. It would be highly satisfactory to learn, that the decision of the Governor- General, acting under the able counsels of the Engineer employed in that behalf, had accorded with their opinion in this respect. Larpent requested that company should be informed at the earliest period of the intentions of the Court of Directors, so that, the Company, might adopt the necessary measures for giving effect to their undertaking, and to the plans and views of the Government of India. He mentioned that the Line was both practicable in an engineering point of view, and likely to be attended with the advantage which would deserve recommendation to the Court of Directors and to this Company. Assuming them to concur in these views, EIR was prepared at once to lay

before Court of Directors proposals for undertaking the execution of that line of Railway. It could not be doubted that the benefits to be derived from this measure would be incalculable in every point of view, and the Board of Directors of this Company, as persons almost all of them intimately connected with India, were most anxious to see the great experiment undertaken.

East India Company in its reply explained that only preliminary information had been received from Government of India and as soon as the Court was in possession of definite information as may serve for the guidance of parties disposed to engage in the construction of Indian Railways, they would, lose no time in making the information public.

Correspondence with Government of Bengal

W. Treobald, Secretary to Calcutta Committee of the East Indian Railway Company wrote to Halliday, Secretary to the Government of Bengal on 11th September 1845, requesting the permission to seek information from government offices on the following points:

- a) Amount and value of Government stores condemned or destroyed annually from decay, damp, time, or other causes.
- b) Amount paid annually by Government for transport of troops, stores, baggage, etc between Calcutta and the several stations in the direction of the North-Western Provinces.
- c) Amount paid annually for conveyance of mails between Calcutta and the several stations in the same direction.
- d) Weight of mails sent out of, and received in, Calcutta from the same direction daily.
- e) Number of lives, and boats, and weight and value of stores and baggage lost annually in transit.
- f) Average number of troops employed in the escort of treasure, stores, Between Calcutta and the said stations.
- g) Annual mortality on route of troops, and whether in excess, and how much, above the rate of mortality in stations.
- h) Copies or inspection of all revenue and other maps, routes, of which there may be spare copies in the offices of the surveyor general, the revenue, and the other departments of Government.
- i) The number of boats and conveyances, their cargoes, passing the following places, to be ascertained: Rajmahal, Pubna, Kishnaghur, Monghyr, Patna, Benares, Entrance and exit of Sunderbunds, Moorshedabad, Jungypore, Ghazeeepore, by persons employed at the expense of the Company, but having the authority or protection of Government.
- j) Traffic over Annabad bridge, at Burdwan, Agra, Delhi, Mynporie.
- k) Returns from Captain Johnstone, of the Steam Department, of passengers and freight up and down during the last five years.

And finally on 17th September, 1845, F. J. Halliday, Secretary to the Government of Bengal communicated the Governor's willingness to grant permission to W. Treobald, Secretary to Calcutta Committee of the East Indian Railway Company for the construction of the said railroad.



METER-GAUGE EMU

A Saga of Faith, Trust and Service that Defined the Chennai Suburban Network

Arkopal Sarkar

Ever marvelled at the sight of a Meter Gauge EMU hurrying past the roads of Madras (now Chennai) from some southern talkies or flicks? Ever wondered about the prospect of the MG EMUs being the lifeline of a metropolitan city? If you have doubts in your curious minds, put them to rest as this capital city on the Coromandel coast was the only one in the entire country to transport its dwellers across its vast suburban network through Meter Gauge EMUs!

Chennai Suburban Network is one of the largest suburban networks in India after Mumbai and Kolkata, operated by the Southern Railway under Indian Railways. It is the second largest network in terms of route kilometres and third largest in terms of commuter footfall with around 1000 services being operated on regular basis. The network has four wings aka the North line, the South route, the West corridor and the MRTS. The North Line, as the name suggests, moves north and is bifurcated from the West Line at Basin Bridge station for Gummidiipundi starting from Chennai Central (now Puratchi Thalaivar Dr. M.G. Ramachandran Central Railway Station). The West route off the Basin Bridge

proceeds towards Arakkonam which is also connected with Chengalpattu via Kanchipuram by suburban services. The South Line – one of the mostly crowded section of the entire network, heads to the southern fringes of the city. It starts from Chennai Beach and runs upto Chengalpattu via Tambaram while the last but not the least is the latest addition to the network – the MRTS. This is an elevated Suburban network commencing from Chennai Beach and running upto Velachery, with work underway to get it extended upto St. Thomas Mount where it will reunite with South Line & the Metro service. The total length of the network is about 1175 Km, in which 509 Km dual track is dedicated for suburban trains. The whole network is electrified & operated by EMU and MEMU trains (except for the MRTS corridor where only EMU traverses). Another significant feature is it being the largest circular network in the country. It is about 225km long and begins & ends from Chennai Beach having major stations like Arakkonam, Kanchipuram, Chengalpattu and Tambaram under its circuit. But having said all, the most significant and spectacular feature of this famed Chennai Suburban Network was the

existence of a Meter Gauge suburban service where meter gauge EMUs used to frequent the tracks connecting the southern suburbs with Chennai! Thus, the Chennai Suburban Network was unique in itself as it's the only suburban network of the nation to boast of hosting a Meter Gauge suburban network from Chennai Beach to Chengalpattu via Tambaram.

The Historical Perspective & Commencement of Services

In 1920, the British Government felt the necessity of connecting northern part of the city as this was the commercial hub of Chennai with south-western part which was principally residential in nature. Sir Percy Rothera, an agent of the South Indian Railways, had foreseen the need for such a service in 1923. With the city expanding in leaps and bounds, agricultural areas such as Saidapet, St. Thomas Mount and Tambaram were fast changing their topography and were developing into residential quarters. In 1928, work started for laying two MG tracks from Harbour (now Chennai Beach) to the southern residential area - Tambaram, to establish suburban services with Steam locomotives. The following year, i.e., in 1929, M/s Merz & McLellan, a Newcastle based British firm, completed their survey on the railway electrification for the proposed suburban services. The consulting engineers opined about the necessity of electrification for the rapidly growing city. In the same year, South Indian Railway resolved for electrification of its suburban network. They awarded the contract to M/s English Electric Company Limited for manufacturing 17 three coach articulated units with each rake consisting of one motor coach & two trailer coaches. On 2nd April 1931, the Governor of Madras, Sir George Fredrick Stanley inaugurated the nation's first and only electrified meter gauge suburban stretch from Madras Harbour to Tambaram. It was only a month after the official inauguration that the service was thrown open to the public on May 11, 1931.

The section was gaining huge popularity and patronage in just under a decade as the commuter count jumped a three-fold, from 3 million to 9 million, in this short period. To handle this extra rush, the then existing rolling stocks were augmented with seven 3-car rakes from the same supplier.

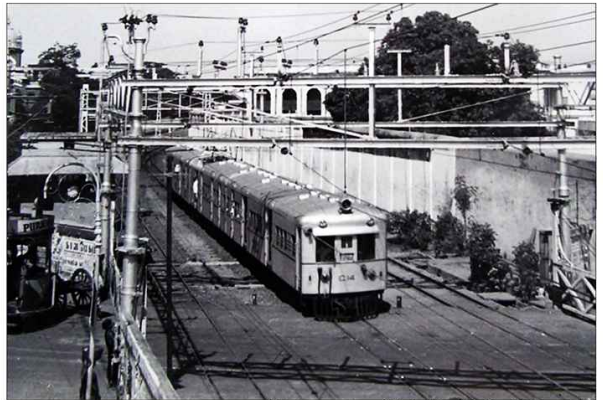


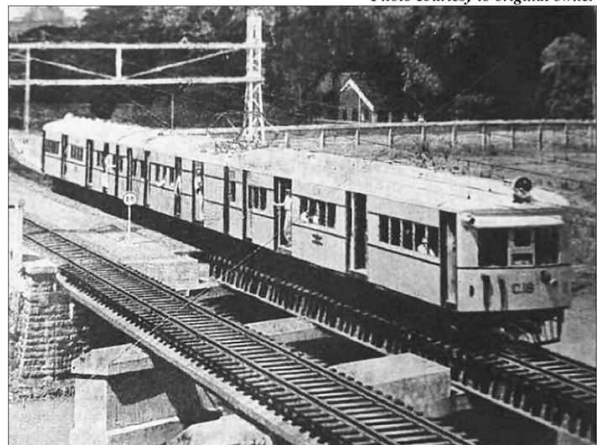
Photo courtesy: Chris Ward & David Churchill

The suburban service which started with 29 trains per day in either direction, got trebled within a decade owing to huge patronage. Each 'all stops trip' lasted 42 minutes. During the office hours, train frequency of 6 minutes used to be maintained. The Madras Electricity Supply Corporation which powered the railway lines through Basin Bridge Steam Power Station, was then supplemented by sub-stations in Egmore and Minambakkam. To supply power to stations and automatic signalling, a 5000v 50Hz line was further provided from Egmore to Beach & Minambakkam.

All about the Rakes

India's first and only electrified Meter Gauge suburban service used to run with seventeen 3-coach rakes in its early days. Each unit consisted of three articulated coaches with driving cab at both ends. The four axles of the two articulated bogies were motored with control gear positioned at one end of the centre coach. The motor coach units were so arranged in the multiple-unit formation so that the motive power got uniformly distributed which increased the overall efficiency and reduced power consumption. Among these seventeen units supplied by the M/s English Electric Company Limited, 10 were composite 1st, 2nd and 3rd class arranged in accordance of suiting prevalent requirements.

Photo courtesy to original owner



Poster advertising the Madras electric suburban services of the South Indian Railways



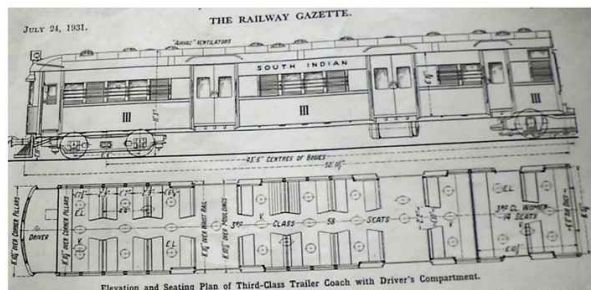


Photo courtesy: Arkopal Sarkar

Remaining 7 were having 3rd class arrangements only. The seating capacity of a 3rd class unit was 194 and the unit was 151ft. long, weighing 73 ton. The split sliding doors with hand operated gear was fitted at both sides of the coach for easy movement of passengers. The coach body was dyed with superior aluminium paint and the interiors were coated with light green colour.

The power equipment on a three-coach unit consisted of four 120HP motor connected in pairs, in series formation, so as to work on 750V DC. The motors are self-ventilated but drew their air supply from inside the coach through ducts near the roof. The control gears were of 'English Electric' roller camshaft type, mounted on a framework. The control equipments for the three-coach unit was accommodated inside a 'high-tension' compartment located at the end of the center coach. The term 'high-tension' came from the fact that this cubicle handled the high-voltage equipments after collection of current from the overhead wires, viz. a 4KW motor generator for supplying control and lighting circuits with a motor driven rotor exhauster. The control circuits were supplied from motor generator and an emergency battery which charged automatically. The high-tension cubicle contained all 1500V gadgetry including main isolating switch, motor driven camshaft control, reverser, motor cut out switches, main resistance, motor generator set, exhauster set, accelerating relays etc. The door of this compartment was locked with an earth switch for safety.

The driving compartment (DTC) was fitted with master controllers, brake valve controller, control switch set & trip, pantograph control switch and switches for controlling lights.

Photo courtesy: Southern Railway



Photo courtesy to original owner

The diamond shaped pantograph was vacuum operated and provided with bow carrying hard copper contact strips. All the units were fitted with vacuum brakes. For maintenance of rakes, a Carshed was established at Tambaram in 1931 with 3 bays - one for inspection, one for repairing and maintenance and another for painting. All the bays were equipped with hydraulic jacks.

The switch-over from DC to AC Traction

In early 1960, necessity of conversion of DC OHE to 25KV AC OHE was felt. In the history of Indian Railways, this was the first AC Electrification programme to be undertaken and completed by any zonal railway. During that time, railways constructed its first grid substation where the 110KV 3PH supply from state electricity grid was converted to 25KV single phase for catenary voltage. That project also happened to be the first in the country to use indigenously manufactured transformers and remote control equipments.

Come 1961, a new project of electrification was approved as the Tambaram - Vandalur section was electrified with 25KV AC traction by next year. But the section had to be temporarily kept energized with 1500V DC as well to facilitate suburban services to Vandalur as ICF was not yet ready with adequate AC EMU rakes although infrastructure to run AC EMU was already in place. Step down transformers were used to support this arrangement where AC voltage was converted to DC to continue flow of current without any hindrance in services. In May 1963, the foundation stone was laid at Guduvancheri for AC Electrification from

Photo courtesy to original owner





Interior view - MG EMU

Photo courtesy: Arkopal Sarkar

Tambaram to Villupuram. The entire work got completed in phases within 1965. A third line was also laid in between Egmore and Tambaram. On 26th March, 1965 the first electric loco (YAM1) hauled goods train hit the tracks between Tambaram & Villupuram signifying completion of work. All the passenger services & goods services except the local trains of Tambaram – Villupuram section gradually started running with 25KV AC traction from April, 1965.

Finally, the day arrived for AC traction operation of MG EMUs. 14th January, 1967 – the day saw the last of the MG EMU operate on DC traction. The following day, i.e., 15th January, saw the historical changeover from the old 1500V DC traction to 25KV AC 50Hz single phase AC traction. While the introduction of DC traction for suburban services was a giant leap forward towards infrastructural growth which contributed towards all-round development of the Madras suburbs centring around Tambaram, both economically and demographically, this changeover was another initiative to sustain the development and mark another milestone of achievement.

From the engineering point of view, this switchover was a remarkable feat as it did not involve a single regulation in operation of suburban services. None of the services were disrupted and the changeover task was accomplished within few hours of the night, albeit a tremendous amount of workload. After the last regular local of 14th January completed its journey and the hustle of passengers settled down, the DC traction was switched off for the final time at 00:21 hours of the next day, i.e., 15th January. The tedious task of final shift to AC traction was started for the Tambaram to Chennai Beach section which was completed within a mere 3 hours and 46 minutes, and the 25KV 50HZ AC traction was switched on at 04:07 hours. The dawn of 15th January, 1967 saw a new era of the Metre-gauge electrified section, with the historical leap accomplished without any difficulty or accident.

The AC EMU Story

Integral Coach Factory, Perambur had manufactured the MG EMU rake fitted with electrical equipments imported from Japan for the Beach – Tambaram section under 25 KV AC



Overhead Electricals

Photo courtesy: Arkopal Sarkar

traction. The rake consisted of one motor coach, two non-driving trailer coaches and one driving trailer coach. Each motor coach consisted of four motors, each of them was capable to produce 172HP. Nineteen of such AC EMU Rakes with 4-CAR formation was procured from ICF, Chennai. With rapid surge in demand, Southern Railway increased the number of coaches from 4-CAR to 9-CAR which then consisted of 3 Motor coaches (MC) and 1 Driving Trailer Coach (DTC) along with 5 Non-Driving Trailer coaches (TC). The services were also extended upto Chengalpattu from Tambaram.

Beginning of the End

The moderate passenger count of 3.3 million in 1931-1932 rose to a staggering 30.7 million in 1950-51 and to 231 million in 2000-2001. The average daily travel count reached 3.5 lakh in 2003-04. With the enormous growth in suburban traffic and the then existing gauge lacking sufficient carrying capacity, the inevitable was knocking on the door. Indian Railways decided to convert the entire section between Beach and Tambaram, which by then had three MG lines, into BG in early 1991 on a 50:50 joint venture with the state government. The first BG line was laid in the section in 1992 which ran parallel with the then existing MG lines and work

Driving Trailer Car of MG EMU

Photo courtesy: Arkopal Sarkar



was completed in February 1993. Of the three MG lines, two were exclusively used for suburban service while the third one was used for mainline express and passenger trains. The newly laid BG line started handling suburban BG EMU trains in tandem with the MG suburban lines.

As the gauge conversion process gained momentum, the railways took up the Chengalpattu – Villupuram – Tiruchirapalli stretch in 1988. Just like the earlier instance, railways decided to convert one of the MG lines in the section between Tambaram and Chengalpattu by holding up temporary services. However, the decision soon had to be reverted in the backdrop of whole hearted protests from the suburban commuters. This resulted in the conversion of the 'down' MG line only into BG, in addition to laying of a new parallel MG line. Within a year, work on the new BG line was completed. By the late 1999, there existed two MG lines and one BG line between Tambaram and Chengalpattu.

With the turn of the new century, the conversion of the mainline MG between Egmore and Tambaram began resulting in the Tambaram station temporarily doubling up as terminal point for mainline express and passenger trains originally originating from and terminating at Egmore. This resulted in increased traffic at Tambaram station where two additional MG platforms were built. By March 2001, the gauge conversion project in the Madras – Madurai section was completed and BG passenger services already began to ply as the Beach – Tambaram section which then featured two MG and two BG lines. Meanwhile, electrification was also making headway in a huge manner which ensured completion of electrification work of the Chengalpattu – Villupuram BG line in December 2001.

With BG breaching nearly every MG fortress, the final knell in the coffin was sounded with the beginning of gauge conversion work of the two MG lines between Beach and Egmore in December 2002. By February 2003, the project

was complete implying higher number of BG EMU services between Beach and Tambaram. The MG services from Tambaram started terminating at Egmore as the MG lines in the Beach – Washermanpet section were dismantled. For gradual gobbling up of MG route kilometres, it was then turn for one of the MG lines between Tambaram and Chengalpattu to undergo conversion in February, 2003 and to be completed in December of the same year which was then began to be used for BG EMU services and by mainline express trains. This resulted in two BG lines and one MG line in the Tambaram – Chengalpattu section by the end of 2003. Remnants of the abandoned MG alignment in the said section could still be found some years back.

Finally, on 1st July, 2004, the journey of the MG EMU came to a grinding halt for the last time ever. A journey that knit the lives of millions, a journey that touched the lives of so many railwaymen for a long 73 years had ultimately ended. A decorated MG EMU with festoons and banners commemorating the last voyage of 30 Km for Tambaram from Egmore station bid adieu to all as it went down to the glorious pages of history. The momentous occasion was witnessed by hundreds of railway personnel and commoners. As the speeches from the ministry and officials concluded, it was time for the meter gauge EMU to leave Egmore. The flagging off implied that it was curtains for Chennai's very own, unique, little EMU. The horn blew for the final time around 11.15 am as everyone present bid a last goodbye – some with tears rolling down their cheeks, some with wet eyes and some with despondent souls. A historic era of Indian Railways thus came to an end with the departure of the last train....

Cover photo - Arkopal Sarkar

Acknowledgement:

Southern Railway – A Saga of 150 Glorious Years (1852-2003) by R.R.Bhandari



Photographed by Arkopal Sarkar



Smokers in An Uneven Land

Steams in Assam

Santulan Mahanta

What I am going to share with you is not some coherent story. In fact, what you are going to read are some scavenged stories and data, yet to be knit into a somewhat presentable fabric. The starting stories predate over a century before I had decided to agonize this world with my presence. And in the meantime, other forces in the history had decided to remove or conceal some facts from the future me. So, this stealth operation against all those oddities must not be considered as an accomplished task, it's just cutting the creepers in order to crawl through – the wider picture is not yet visible though occasional glimpses are there. Now putting aside this claptrap, let's talk some sense.

The reign of Assam went to the British in 1826. Let me use my favourite word 'however' here, it will appear many more times in the following sections. However, the British had entered Assam as early as 1800, before the state went under the British rule. The cause was the terms with the Chinese had fallen from being friendly for the British – until again in the World War II when the Allied Forces had to keep the supply chain to China alive as another ally against the Japanese invasion which was known as China-Burma-India Theater (CBI Theater) of the War, where again Assam's meter gauge Railway network would play another vital role, with

introduction of American locomotives into this land. However, we will discuss that later. Let's return to the 19th century Assam. As the relations between the British and the Chinese were hanging in tensions which would severe soon, the white skinned business explorers began looking for an alternative, or multiple of them – alternatives. They continued their searches with two dimensional targets – either a new land suitable for tea cultivation or a land which might have tea naturally growing but hitherto unexplored, undiscovered. The Great Britain population had already got addicted to the Chinese stuff, so much that their social culture had changed altogether with the establishment of numerous tea-houses; tea houses which were the new center of casual to social meets leading to debates on current affairs, and well, the genesis of several legendary periodicals was to be found there. My point here is, tea had become something so English and yet not English rooted that they were forced to look for alternatives, alternatives in any form but it has to be the supply of tea as the final product. Pork they could get rearing pigs anywhere in their Great land, beef they could procure by themselves raising cattle for that purpose, fish were available in plenty in their docks, they could get the dairy products from the milk they produce and left after consuming as milk itself (if they did at all), they

could drink wine, they could drink whisky, they could drink beer according to their preferences. Everything went into their menu was available within the Great land itself. However, to get over the hangover a cup of tea was felt necessary in the morning. The intellectuals needed a cup of tea while saving the British Empire with a fellow intellectual who were chanced met at a tea house, the writers needed the strong kick of a hot cup of tea while fumbling for a word which Dr Johnson had failed to include in his great dictionary. So how would they survive if China was to put a ban on the trading of tea! Some alternative or alternatives must be found, with profitability.

Without tea, the British population was dying. Tea houses allegedly took to the adulteration of that liquor. Some details of such adulterations should be better not told if you are an ardent *chaiivist* and don't want to suspect your favourite *chaiwala*. However, long after King James of Scotland who succeeded Queen Elizabeth and saved Britain from the lustful eyes of the Roman Catholic Church, in 1823, another Scottish man took the pain of securing the greatness of the Great Britain. That gentleman went by the name of Robert Bruce, who with a 'little' help of a local guide Maniram Dewan discovered how a local tribesmen called Singphos brewed tea from the leaves of some wild bushes. Sadly, he passed away after two years from that incident before he could arrange for scientific examination of those wild bushes. However, his younger brother Charles Bruce vowed to accomplish the elder brother's dream. In 1830, he sent some samples to the Botanical Garden in Calcutta which confirmed these bushes as tea, scientifically *camellia sinensis*, but listed the variation as *Assamica*.

One thing led to another; serious thoughts were given to cultivate tea in Assam. When there is a demand, there must be investments too. Thus, Assam Tea Company was formed, tea gardens were soon opened and tea started sailing overseas to England. Let's stay away from too much of tea dust or it would cover our main objective here.

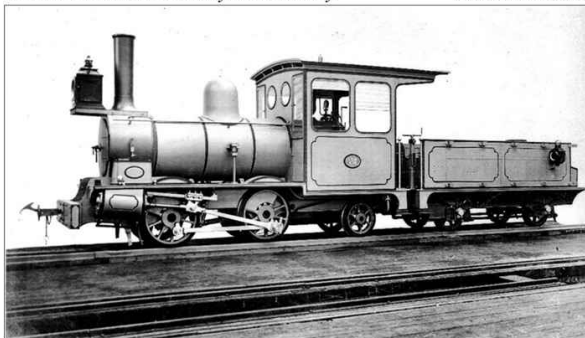
For decades tea gardens were saturated in the Upper Assam (eastern part of the Brahmaputra Valley is called thus) and produces were ferried through waterways from Dibrugarh. However, by the 8th decade of the 19th century only tea became a profitable business owing to the introduction of more modern equipments in the tea factories. In 1881, a company was formed – Assam Railway and Trading Company (ARTC), and as the name suggests, its aim was to explore business opportunities with a railway. However, it was not the first organization to envision a railway – the government as early as in 1866 initiated the construction of two trunk roads in the north and south of the Brahmaputra from extreme east to extreme west. The southern one of these two, known as the Assam Trunk Road, was designed with a vision of making it a first class metalled road with proper embankments, twenty-four feet wide, and aligned in a manner that should render it possible at any point of time to

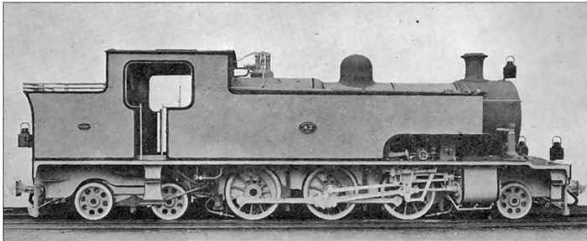
convert into a railway! Along with the tea, supply of coal for the industry became necessary. Although the waterways in Assam were proved to be useful for bulk outward movements, yet upstream navigation was time consuming. So, developing of the nearby coalfields could only solve the timely availability of coal. That, however, was not again an easy procurement in rainy days. The sixty-mile-long, unmetalled Sadiya Road in rainy season was a perfect slough of despond, strewn with broken carts, burst rice bags and damaged tea boxes. Given the moment and the milieu, there was no easy solution to the traffic problem, and the road users truly accepted the fact that 'what cannot be cured must be endured'.

So, an alternative was to be founded which lay in the mapping of a metre gauge network connecting all the production areas – coal, tea, and timber. The ARTC opened the first section in 1882 and following consecutive years saw the extensions in nearby areas with Makum as the junction point while Dibrugarh steamer ghat served as the main terminal – the Dibru-Sadiya Railway or DSR. However, anecdotes are too many, yet details of rolling stocks are almost nonexistent! Nowhere in present accessible documents on ARTC's DSR do we find the details of locomotives. However, kudos to digital platforms that we can access the database of companies long dead – Vulcan Foundry in this case. Locomotives of ARTC were shipped as early as in 1880 in the name of Shaw Finlayson & Co., which originally had an interest in floating ARTC in London, however, unsuccessfully and the firm was wounded up between 1881-84. But that was the firm which was entrusted with the construction of ARTC's railway. So, Shaw Finlayson & Co. had already placed the order for locomotives with a vision of a railway here. However, by the time the locomotives arrived, ARTC was in the game and became the owner of the rolling stocks. The Vulcan database mentions 10 meter gauge locomotives with serial number in the range of 861-870 with 0-4-2 configuration. However, the very first official inspection, by Col. De Bourbel, Consulting Engineer to the Government of India for Guaranteed Railways at Calcutta, made on 1st December, 1882 on the section between Dibrugarh and Chabua, provides wealth of

E Class Steam Locomotive Built by Vulcan Foundry

Photo source: IRFCA





ARTC 2-6-4 Tank Locomotive of 1915

Source: enuui.com

information on the technical aspects, which include some insights on locomotives! And there we go. The report said that "the Company possessed six E-Class engines, made in England and erected in the Dibrugarh workshop and 67 carriages and wagons." Now what happened to the rest of the four from that lot of ten, we don't know. Given the Class E design, a conformation to 1876 IRS design, the locomotive should look like the one below, some 147 were built for different metre gauge railways in India and a few built for Burma State Railway as well. Another two units of the same class were procured from Vulcan in 1890. Definitely these locomotives proved suitability for the ARTC network of DSR to warrant this batch of two.

In 1915 also, ARTC placed an order for 4 tank type locomotives with Vulcan Foundry. These were perhaps the earliest examples of meter gauge tank locomotives in Assam. The Vulcan Work Order No. is illegible in their archives, but other details are pretty much available. Serial numbers 3170-3173, had diameter and stroke of cylinders 15"x22" and driving wheel size 3'-7" with 2-6-4 wheel arrangements.

These tank engines were followed by another few units built by Société Franco-Belge of Belgium in 1920. Exact number of units, however, is yet to be found out.

Between 1894 and 1931, ARTC procured 15 W. G. Bagnall built saddle tank locomotives of 2' gauge to work on the collieries in and around Tipong. Some of these were 0-4-0 and some others were 0-4-2. Apart from these, ARTC also procured 4 DHR B-Class locomotives in 1968. Some of these

Coal India Superannuated Ex-DHR B Class # 781 in New Tinsukia Railway Heritage Park.



Photo by the author



ARTC K Class No. 53

Source: Historical Railway Images (Flickr)

specimens were seen working in Coal India Limited mines till the last decade of this century. After the closure of the railway lines to the mines, they were withdrawn and one such Ex-DHR B-Class numbered 781 can now be seen plinthed in New Tinsukia Railway Heritage Park, acknowledging Coal India Limited for the generous donation. Those DHR sold outs retained their DHR numbers.

By 1930s, the ARTC network was linked properly with the Assam Bengal Railway and had to work in synchrony in terms of rolling stocks. The Company thus required larger and stronger locomotives for larger movements than before. ARTC procured 6 locomotives from William Bagnall Locomotive Works in 1930. Though these were the K-Class on ARTC network, they were, however, the improved version BESA HC class with 4-6-0 wheel arrangement. Elsewhere in India they were known as HM Class. They had Bagnall serial no. 2416-2421 in 1930. ARTC assigned road numbers 53-58 to them.

Now let us visit some 130 kilometres downstream to present day district of Jorhat, which witnessed the coming of railway in the form of Kokilamukh State Railway in 1884 which went on to become Jorehaut State Railway and ended up as Jorehaut Provincial Railway or JPR in popular references even today. If we think of the Darjeeling Himalayan Railway which just started functioning by that time, we feel that 2' gauge track fitted perfectly to that mountain terrain – on the other hand, a commercial train of the same gauge across the Brahmaputra valley would appear incongruous. Yet this JPR chose the DHR standard as its operating gauge! So here we need an explanation of choosing that weird gauge for a railway in the plains and aimed at ferrying freight from the tea gardens to the steamer ghat. The then Chief Commissioner of Assam, Steuart Colvin Bayley, was so enthralled by the DHR toy train that he authorized construction of a railway line at Jorhat in 1882, at an estimated cost of Rs. 1,11,320/- to be paid from the provincial revenues of Assam, without obtaining sanctions

from the Government of India. Though he was chided, yet the project was sanctioned later on. Pecuniary compulsions made the choice of the narrowest gauge, inspired by the DHR which was second such in India, the first being that laid for the Gaekward of Baroda as a private line. Anyway, considering the territory and traffic JPR was aiming at, a grander gauge would have been a sacrilege.

Now if we presume that the gauge was everything that DHR became a role model for JPR, we won't be less wrong. There's a Tiny story in the beginning itself, Tiny with a 'T'. However, the Tiny story is entangled hugely. In the initial stages, the JPR found it cheaper to procure second-hand engines from the similar gauge, DHR is the storehouse in this case. One particular locomotive of the DHR was ready to fade away in a lesser line – Tiny was its name.

"The first locomotive to arrive at Siliguri was brought by the contractor to assist with the construction of the new tramway...The engine was originally named Sutaram, but by the time it had arrived at Siliguri, it was known as TINY. The exact date of the arrival of Tiny at Siliguri has not been established, but it certainly was up and working for the contractors by the beginning of 1880 for this was the engine pressed into service to haul the Viceroy and his party up the tramway ... Tiny was never awarded a DHR number and after the line was completed, was relegated to shunting duties in and around Siliguri. It was eventually packed off in 1886 to serve in the tea gardens of the Jorhat State Railways where it ran as their engine no. 4. It may have been welcomed with open arms, as their other three locomotives had been prone to accidents with their wheels falling off!"

(Halfway to Heaven, Terry Martin)

The 2' gauge fraternity in India was a close-knit one and often swapping of rolling stocks with each other took place. In 1942, the works Manager of DHR at Tindharia, Jimmy Shaw, visited the then redundant JPR and suggested that four of the latter's locomotives to be purchased for the Kishanganj section of DHR. The management, however, turned it down that time. The DHR had sold four of its locomotives to the ARTC to be worked on the Tipongpani

colliery, while two of JPR's locomotives were at work on the DHR till the end of the last century. JPR operations were horrible, and how Mahatma Gandhi's coach got decoupled from the consist during his night journey from Jorhat to Mariani is another interesting story – however, beyond the ambits of this write up.

In all possibilities, the earliest procured locomotives of JPR were Class 1 of DHR which became redundant being replaced by Class A in the latter from 1882. However, exactly when the B-Class engines were pressed into the service of JPR is uncertain. And even before that there is every possibility of disposing of redundant DHR A-Class to JPR.

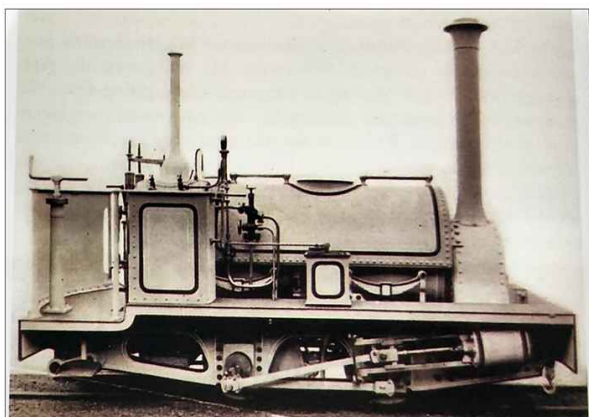
Now let us fast forward to the wider network. By that time Assam Bengal Railway had already laid its mainline tracks from Chittagong to Tinsukia via Comilla-Akhaura-Badarpur-Lumding. From Tinsukia it was connected to DSR, at Mariani it was joined by JPR, a branch from Silchar joined at Badarpur and from Lumding a branch line was extended to Guwahati. In 1943, it merged into the newly organized Bengal Assam Railway which facilitated the CBI Theatre of the War. Construction of this line in Assam is rich with adventurous anecdotes – venom spitting cobra, his highness the Royal Bengal Tiger, local thug called the *kala azar* and innumerable landslides during the tunneling – all made it one of the toughest railway projects in India, which the sahibs overcame because sahib must act like sahib and they can't abandon a project midway. However, none of those incidents involved any locomotive; therefore, I'd skip them as well. Since my focus here is the steam locomotives in Assam, so I am not discussing the ones introduced to Assam Bengal Railway prior to 1900. Of course, they were well maintained in post-Independence Bangladesh, as Mark Carter evidently had spotted 1895 built F-Class steams working as late as in 1983! More on these in separate stories in upcoming issues.

BESA Designs

Assam Bengal Railway employed quite some number of 0-6-0 F-Class mixed traffic locomotives as early as in 1895. These were one of the most popular classes in the beginning of the 20th century. Some 1035 units were built for metre gauge

A 1895 built Ex-ABR F Class in Bangladesh Railway in 1983.

Photo by Mark Carter



Source: Indian Railways: The Final Frontier

DHR steam-engine, TINY





Schmalspurige 1 C-Zwilling Naßdampf-Personenzuglokomotive
der Assam-Bengal-Bahn (Ostindien)
gebaut 1902 von HANOMAG Hannover-Linden.

Hannover, PA 12765

The Hanomag built G Class Locomotive

Source: Wikipedia

railways in India. Surviving through two World Wars, all those F-Class in this part of the country were left with East Pakistan (Bangladesh), a few witnessed the Bangladesh War for Independence and had lived till the 1980s.

Back in 1902, Britain and Germany had almost nothing to war and worry about, though that would change after a decade. Therefore, British companies could employ the German expertise quite freely. One such company was Hannoversche Maschinenbau AG vormals Georg Egestorff, Hannover-Linden, Germany – popularly known as Hanomag. Assam Bengal Railway, now opening all their lines, went on to procure as many as 10 Locomotives from Hanomag. Builder's serial number 3813-3822, with 2-6-0 wheel notation and ABR class G. It goes without saying that these 23ton locomotives were not quite worthy of long hauls. Though they were supposed to be passenger locomotives, yet they ended up hauling mixed short trains for shorter distances, perhaps there were not much traffic specific duties for them to do. According to Hughes, one of these G-Class, popularly referred to as Mogul class, was sent to East Africa in 1916 from where it didn't return – though Germany was quite nearer to Africa than this eastern flank of India.

In 1910, Assam Bengal Railway placed orders for two almost similar classes of locomotives, 5 in each class. What was their ABR class designation is unknown, but it appears that these were BESA designs, varying only in terms of diameters of the driving wheels. These were 4-6-0 type locomotives. The type built under the Vulcan work number 255, with serial numbers 2589-2593 had diameter and stroke of cylinders 15"x22" and driving wheel size 4'-0" were supposed to be BESA mixed traffic locomotives. The other type had the same arrangements but driving wheel size was 4'-9" (Vulcan work number 257, with serial numbers 2594-2598), supposed to be passenger specific variant. Both these designs were standard BESA 4-6-0 design in India. However, no uniform classification was possible for these locomotives throughout the country because of the variations in the boiler specifications. Some such with different boiler sizes would be introduced to ABR again after almost a decade! That's where the BESA in meter gauge floundered in India as their failure



BEYER, PEACOCK & CO. LTD. MANCHESTER, ENGLAND

BENGAL ASSAM RAILWAY TYPE 4-6-0 SERVICE - PASSENGER No. 0920

Source: www.fini.net

in standardizing the boilers became a bane.

In 1918, ABR procured 5 freight locomotives from Vulcan – BESA 4-8-0 design – with diameter and stroke of cylinders 16"x22" and driving wheel size 3'-7", Vulcan working number 810, and serial numbers 3230-3234. These too would be followed by similar units three years later, with slightly larger boilers.

In 1918, another 6 locomotives were procured from Beyer Peacock and Co. These were, again, BESA 4-6-0 Passenger design. Beyer Peacock Order No. 0920, Sl. No. 5930-35. Though this formed the order in 1918, yet the Beyer Peacock's catalogue in 1946 lists this design customer as Bengal Assam Railway of that time. All other specifications were as per the 1910 batch of BESA 4-6-0 passenger locomotives of ABR.

After the World War I, ABR placed orders for another 21 locomotives with Vulcan Foundry in the year 1921! The first order was for 17 locomotives – a batch of 7 with diameter and stroke of cylinders 16"x22" and driving wheel size 4'-0", Vulcan working number 1355, serial numbers 3461-3467; another 10 with diameter and stroke of cylinders 16½"x22" and driving wheel size 4'-9", Vulcan working number 1360, serial numbers 3468-3477. Both types had 4-6-0 wheel arrangements. These were BESA Mixed Traffic and Passenger Traffic specifications respectively, larger than the ones procured in 1910 – the passenger traffic loco outnumbering the other. However, that deficit was compensated by an order for 4 heavy freight locomotives of BESA design – with diameter and stroke of cylinders 17"x22" and driving wheel size 3'-7", Vulcan working number 1435, serial numbers 3488-3491, having 4-8-0 wheel arrangements. Unfortunately, I haven't come across any picture of any of those three classes, not even in the Vulcan archives.

In 1927, ABR placed another two orders with our old friend Vulcan Foundry for two similar sets of locomotives. First set had Vulcan working no. 3090, serial number 4081-4090, a total number of 10 locomotives with 2-8-2. However, the class designation assigned to them later was YD/1. These had ABR road numbers 201-210. Later on, these were transferred en masse to Western railway and were renumbered 30297-30306 in the All India Scheme. Second set is mentioned as YD class, Vulcan working number 3210, serial numbers 4164-68, a total number of 5 locomotives with 2-8-2 wheel arrangements. These had ABR numbers



ABR 202, Vulcan Foundry built YD/1 Class *Source: Historical Railway Images (Flickr)*

211-215. While all the specifications of these two orders match, yet YD/1 had slightly smaller diameter and stroke of cylinders 16"x24" instead of 17"x24" of the YD. The picture below is from Vulcan Foundry archives, loading a YD/1 of ABR to a cargo ship. The YD/1 class in fact incorporated the boiler of the YB class. Another 4 members of the YD class joined the ABR fleet in 1929. These were meant for freight duty over ABR.

YD class members remained quite popular in the subcontinent. These were to be found not only in Assam but also in the MG network over the Southern states. Until the beginning of the last decade of the 20th century, one could find them still working in around Kulem in Goa, and in Burma Railway. In Assam, however, the remaining units were retired by the turn of the 1970s for a service life of almost half a century – what more we could ask from them!

Until now, you might get an impression that the story of the steam in Assam is a tryst with Vulcan Foundry only. Of course, Vulcan was to any Indian steam operated network what ALCo was to diesel operations in India. Locomotion in India started with Vulcan machines, be it Great Indian Peninsular Railway in the western India or its rival East Indian Railway in the eastern India – Vulcan delivered the first machines. That company, therefore, was the first choice of any company planning to procure a locomotive. Well, the year 1927 would make the metre gauge network here, particularly the hill section, unique among Indian metre gauge fraternity.

Western Railway YD/1 30300 or ABR 204 on 30th October 1978. *Photo by Mark Carter*



ABR "Beyer Garratt" type 2-6-2+2-6-2 Steam Locomotive *Source: Wikiwand*

The Great Garratts

Assam Bengal Railway (ABR) and later Bengal Assam Railway (BAR) are the only railway in India to employ famous Garratt locomotives in metre gauge. There are records of ABR procuring as many as 5 Garratt locomotives from Beyer Peacock & Co. in 1927. Beyer Peacock records show them as Order No. 1127, Sr No. 6385-9, with 2-6-2+2-6-2 wheel arrangements. These locomotives, railway enthusiasts would know, were deemed to be better operator in hill sections because of their apparently higher tractive efforts due to their weight and number of axles. These were classified as T class under ABR, and redesignated as GT class on the BAR – G definitely to denote Garratt as simple T could be a misnomer referring to Tank engine only. Regarding the road numbers of these 5, they were possibly 400-404 of ABR. Not much photographic evidence is available either unlike the one above. These T Class superheated engines could haul 300 ton trains between Jatinga and Harangajao though it needed assistance over the steepest sections.

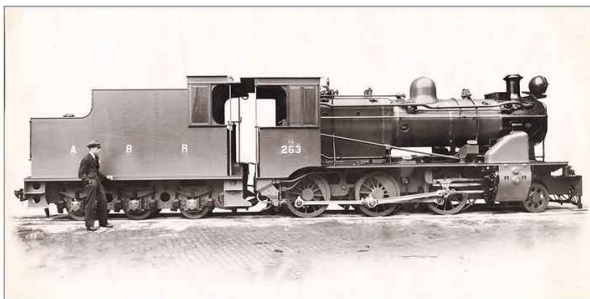
The IRS Design

By the beginning of the 3rd decade of the last century, Assam Bengal Railway started employing different light branch-line locomotives. Requirements of these locomotives arose along with the increasing works in the branch lines like Chaparmukh to Silghat, Furkating to Mariani loop line via Jorhat Town and Jorhat Junction with the conversion of JPR narrow gauge line from Mariani to metre gauge now, Simaluguri to Naginimora line and Simaluguri to Sivasagar

A YF in NFR in 1970s.

Photo by Mark Carter





YK Class numbered 263 of ABR

Source: Historical Railway Images (Flickr)

Town line, and later lines like Amguri to Tuli etc. Such lines required frequent and yet light traffic movements. Therefore, from time to time these sections found different kinds of light locomotives entering into the service – some are quite weird and rare in the subcontinent, to that extent that usually they don't find mentions in the discussions! There were some standard designs nevertheless.

Around 1931, YF class of locomotives arrived for the ABR. These 0-6-2 type locomotives were built by Krupp. Some later units were 2-6-2, built by the Ajmer workshop. They survived till the end of the 1970s, mostly worked in the Chaparmukh-Silghat section. Some were also employed in Dibrugarh Town area to work the shunting duties around the DBWS, and they died together with their younger and mightier comrades in 1997. At least two such examples YF 30407 and 30412 were lying at the Dibrugarh steam graveyard for quite some years before being put to rest in pieces.

In 1935, ABR procured a few light locomotives for doing branch line duties. These were IRS design specification YK class with 2-6-0 wheel arrangements. These too ended up their service life elsewhere, transferred to Southern Railway from Northeast Frontier Railway.

The War Design of Various Makes

You might have guessed it right, the design specifications laid by the War Departments for the World War II, which is simply put as WD. This term WD, however, is not monolithic term – more of an umbrella term for all those different designs from different makers to serve the purpose of the War time movements as per the demand of the War

4th MWGL 2-8-0+0-8-2 Class Garratt in Burma as GB Class No. 824. Photo by Mark Carter



War Department MWGH No. 4210

Source: Historical Railway Images (Flickr)

Department. When we hear the term WD, the broad gauge dominated Northern India would recall the AWD or CWD locomotives, which differ only by the A and C – American and Canadian, and nothing else. Thus, for a broad gauge operator, the WD would mean either of those two identical classes. Over the metre gauge network as well, the diminutive class was called MAWD (M for metre gauge and A for American, and no MCWD ever built) which were also shortened as WD quite frequently. And using just the WD eponym won't harm anyone – you just can't change the bogie gauge to fear any misunderstanding between MAWD and AWD/CWD. However, in Assam the WD were all the more complicated within the same metre gauge network itself!

Bengal Assam Railway found itself in possession of 4 different WD classes! And that's where the prefix to the eponym becomes important over here. One has to be specific which kind of WD he is referring to. If you say P4 in Howrah electric shed, it'd mean WAP4; if you say P4 inside Krishnarajapuram shed, it'd mean a WDP4; but it'll create a whole lot of confusion inside Tughlakabad shed at present where you need to be specific about the prefix WA or WD. Similar case was with BAR at that time.

Before you get entangled in the twisty WD tale, let me throw the names of those four classes – 3 types of Garratts excluding the 1927 batch of 5, and the wartime darling MAWD class. Garratt classes were MWGL, MWGH, and MWGX. Garratts were based at Badarpur shed in the Barak Valley.

Ten 2-8-0+0-8-2 War Department Class MWGL class light Garratts were assigned to BAR in 1943. These, however, had a very brief stay in Assam. All the units of this class were transferred to Burma Railway after the War where they were incorporated into the GB class. During the Indian days, they had the numbers in the range 74200-74209.

Two 2-8-2+2-8-2 War Department Class MWGH light Garratts were assigned to BAR in 1943. Another twelve of the same class were sent to Burma at the same time. They were assigned the same War Department numbers in the range 74210-74223. After the War, these two units were also sent to Burma to join the GC class sisters over there.

Eighteen 4-8-2+2-8-4 War Department Class MWGX Garratts were assigned to the BAR in 1945 and 9 of them



Last 2-8-2+2-8-2 MWGH Garratt in Burma as GC Class No. 839. Photo by Mark Carter

stayed with us after the end of the World War II. Some of its members ended up in East Africa like the one in the photograph below. This class of Garratts had an interesting history. In the late 1930s, the Great Western Railway of Brazil ordered 4 metre gauge 4-8-2+2-8-4 Garratts. The War interrupted the design work being done at Beyer Peacock. Then the War Department wanted metre gauge Garratts to work in North-Eastern India and Burma. Therefore, Beyer Peacock modified the drawings intended for Brazil to suit India's smaller loading gauge. The MWGX Garratts had round fireboxes, superheated boilers and plate frames. They had 4 ft diameter driving wheels and 16" x 24" cylinders. These light Garratts were such successful designs that they were also supplied to South Australian Railways.

These MWGX class had War Department numbers 74224-74240. After the War, the 9 that remained in India were assigned IR numbers in the range 32082-32090. In between, they had BAR number 680-696.

Post War, in 1949, another 4 Garratts with MWGX class specifications got diverted to Assam instead of Burma where they were to constitute the GE class. But that mistake was supposed to be rectified soon.

Of all these Garratts, quite significant in numbers in such a small territory, only one got preserved at New Tinsukia Railway Heritage Park – MWGX 32086. During the ABR days after the War, it was numbered as 684 of ABR. It was lying rusted for a long time at New Guwahati shed before that. If it really has all the existing parts from a single locomotive, then it should be the 7144 of BP Order No. 11124 in 1945.

MWGX 32086 Garratt @ Railway Heritage Park, New Tinsukia.

Photo by Author



A 100 car doubleheader goods train

Photo source: George Duffy (Jr)

Along with the War, MAWD class Mikado type 'F' locomotives made an appearance in Assam. From what I gather from the evidential pieces and the narratives of the US Army 745th Railway Battalion, these MAWD in Assam were built by both ALCo and Baldwin. However, ALCo units were not as abundant as Baldwin units in this part of the country. India as a whole received some 300+ units of MAWD, out of which some 30+ were post War Copy. During the War they were extensively used up and down the length of the BAR. A large number of them were based at Lumding, being the central location for the Railway Battalion's Burma Campaign. MAWD being the miniscule version of the USATC S118, the US Battalion found it familiar and easier to operate. They not only operated them, even in the woes of the War, they didn't forget to christen each one of them – that would pass as a tradition in this land for the remaining decades of steam. After the War, these MAWD were distributed among the sheds in the Brahmaputra Valley – Tinsukia, Mariani, Lumding, Guwahati, and Alipurduar – where they were soon relegated to heavy marshalling duties and short trips after the arrival of more sophisticated YP and YG classes. At present one can find a 1943 Baldwin built MAWD numbered 1718 under Indian Railway plinthed at Dinjan Military Base in Dibrugarh and another Post War Copy by Baldwin numbered 1798 plinthed at NJP with significant distortions to its look. 1798 was restored at New Guwahati shed and put on chartered service for a while. However, that was not sufficient to earn for its upkeep. MAWD 1746 by Baldwin was the last one to be condemned in Tinsukia shed. Dibrugarh workshop area had about three MAWD employed till the end – 1759, 1788, and 1801.

Post War Locomotives

After the World War II, or more precisely after the independence, very few new steam designs entered into the service in Indian Railways. There were just four new designs in IR metre gauge in that era, and Assam received members from three of them. These were YP, YG, and YL. While YL as a whole was a small fleet of 264 members in the IR, YP and YG were widely found across the network. Steam sheds in Assam also received a large number of them, and from all the



Photo by Subhadyouti Bose

makers of these locomotives. Learning from the US Army Railway Battalions, our drivers invariably started christening their locomotives, at least all those YPs, sometimes choosing a better name for the loco over one's offspring! None of the YL survived long in NFR, but the other two classes stayed till 1997 when IR decided to play the masterstroke against steam. NFR had YPs mostly built by TELCO, though a few Baldwin samples were also there in the fleet. Out of some 80 or more YP locomotives in NFR, only one got preserved – YP 2618 from 1970 batch by TELCO. This particular loco started service life as 'Yatrik' under Lumding steam shed and later got transferred to Tinsukia shed where it was renamed as 'Diana'. However, now it is preserved under a name after the historical figure 'Joymati'. Interestingly, many historical figures of lesser importance found their names as insignia, but not Joymati until this preservation. Similarly, though most of our YGs were built by TELCO and CLW, yet quite few members were Europeans as well along with Japanese built. NFR had a considerable presence of Weiner built YG. A significant number of YG locomotives have been plinthed for public display in different places. YG 3213 has been plinthed at its home Mariani Junction itself whereas its shed mate 3382 which worked the last steam train from Mariani is now plinthed at New Cooch Behar station. YG 3403 of Badarpur shed found a new roof above its head at Howrah Regional Rail Museum. Weiner built YGs 4091 and 4119 are

Photo by Subhadyouti Bose



Photo by Somsubhra Das

preserved at Lumding and Guwahati stations respectively, however, with TELCO marks. 4091 originally belonged to Mariani shed where it had the name Ghatotkach after the son of mythological character Bheem. It later retired from Badarpur shed. On the other hand, a younger YG from Badarpur shed, numbered 4367 used to be put on the Jatinga Steam Safari charter under the name Hill Queen Hidimba – mother of Ghatotkach! Hidimba, however, lost all the job prospects after uprooting of the MG tracks in the hill section and is now destined to New Jalpaiguri to pose for cameras in future. Yet another YG, 4405, found its superannuation destination far away at Upper Bhopal Lake!

NFR remained an unexplored paradise for steam lovers, just like it was for metre gauge enthusiasts. This piece of writing cannot claim to be all inclusive and comprehensive. Yet an attempt has been made to offer you a glimpse of steam locomotion in this land of uneven landscape. Stories could be made longer, anecdotes could be compiled, and thirst still remaining unquenched though. This feeble attempt on this vast subject is hence left here for this time. Hopefully, this strive would be pleasing enough to encourage further narratives in times to come....

Cover photo courtesy: Somsubhra Das

Photo by Somsubhra Das





Meter Gauge Sojourn of Bihar

Notes from the sojourn through the Meter Gauge sections of Bihar in 2013... Trayambak Ojha

Wow do you define your affinity for machines moving on rails? The answer is rather obvious but cannot be bound by words. It is when the nature is at its most hostile form, you set out on the hinterlands around the river Ganges and its tributaries to capture a Rail species on the Fast-track of extinction. My meter gauge exploits of Bihar made during July, 2013 was accentuated by all these factors of hostility coupled with serenity which made the trip a satisfying one.

Based out of Kolkata, I set out on one of the most 'modern trains' of Indian railways to capture the smaller older trains of the past. Ohh, what an irony! The Duronto Express from Shalimar to Patna Jn. was the ride for the overnight journey to start my trip. A cab ride to northern Bihar would be the way forward. Me being an old school railfan, this broad-gauge journey in a 2-Tier AC Class was rather uneventful. I slept off after sipping a few glasses of water in the comfortable side lower berth.

DAY 1 :

Next morning while I woke up, our train was already crossing Rajendra Nagar terminal. The train was rather before time and I got down at the wee hours of a rather bustling Patna junction. Here I was greeted by my usual railfanning buddies who were present with the cab in the parking lot. Without wasting much time, we straight away headed towards

Darbhanga. Our first stop was supposed to be the Indo-Nepal border town of Laukaha Bazar where the Meter Gauge trains still chugged through but the whole infrastructure was in a rather dilapidated condition. With monsoon in its full glory, it was raining almost all the way till our destination. It took us rather the whole of morning with one refreshment pit stop to reach Laukaha by lunch time. It was not even a small town but just a glorified village. It was some other world where things were still rusty and moved at a slow pace. Even to provide a green signal for the incoming train the home signal's semaphore wire had to be pulled down with the Khalasi's full might!

Even with such minimalistic lifestyle, the tranquillity and peace of the place was unparalleled and was only shattered by the honking of the incoming YDM4 #6494 from Narkatiaganj which made the first appearance for us from Sakri via Jhanjharpur through dense thickets. After a brief halt and a quick reversal, with a rather less occupants de-boarding and reboarding since it was the off-peak lunch hours, the train was ready to depart. With countryside sights to savour and the weather holding up, we set out towards our next destination at Nirmali Jn. This place had come to news where the Kosi Mahasetu Bridge was inaugurated, replacing a previous bridge which had been washed away by heavy floods and was severely damaged in the India-Nepal



6494 @ Laukaha Bazar station

earthquake. The under-construction bridge can be seen below in the background.

It was a slightly bigger town than Laukaha and was rather a buzzing place. We had our lunch at a shady dhaba which was rather unpalatable but we just satisfied our hungry pangs being on the run since morning and then clicked the village essence of India in full glory with sights and sounds reminding us of our origins.

By the time the train from Nirmali was getting ready to depart, the weather as well as the light had started to run to darkness. Very soon rain clouds came and we began our retreat towards Hajipur where we would be basing ourselves. En route near a Level Crossing we came across this magnificent Tamuria Station amidst a village, where the evening market was bustling with activity while it was still drizzling. In the interest of our equipment, we took some shots and began our 5-hour long sprint back to our base for a well-deserved rest. We retired in a small hotel after a quick shower and a filling dinner, to start our next day afresh after a tiring and fulfilling day 1.

Meter-gauge action at Nirmali



6592 @ Tamuria station

DAY 2 :

We did not realise how tiring and late our trip on day one had ended with as we ended up augmenting a few hours to the planned time of departure next day. Our cab driver from Patna had already arrived after we had sent him back to his base on day 1 clearing his payment. We caught a quick grub in the hotel and checked out as we did not need to come here again. It was going to be a rather challenging day as we encountered some of the dirtiest and the most treacherous roads of our journey. The inclement weather had worsened things. What we did not perceive that even after travelling for almost an entire day we hadn't seen a train till now, such was our route but the destination itself was charming. The target was the Chappra-Thawe Meter gauge section and we reached Gopalganj which is now famous for the actor Pankaj Tripathi but was still a sleepy town 8 years ago. It was already past 4 pm and we were waiting for our trains. Unfortunately, none of these trains run on time and all we had were carefully assembled schedules and assumptions with corroboration from station staff about train arrivals. Finally, after hours of driving and wait, we had the first glimpse of the train at around 5pm, royally entering through the Gopalganj semaphore gantry. What an antidote to the sore eyes it was!

Gopalganj Rail Bridge





Emerging from the thicket....

The entire Railway network in these parts is so carefully intermingled with the civilization that without any visible railway installations, you could never ever guess about the actual passage through which the railway tracks pass. The wet weather and the green cover just made for some wonderful sights and the sounds of YDM4 are always seemed music to the ears of a smaller gauge railfan.

We could click only around Gopalganj as the light was fading quickly. We reached Thawe junction as well hoping for some combined Broad gauge and meter gauge action there. But despite of horrible delays of both the set of trains, we managed to miss the meter gauge trains at Thawe and the broad-gauge special train from Chhapra to Lucknow was delayed indefinitely. The station wore a rather deserted look and it was already completely dark with a slight drizzle. We were supposed to travel to Gorakhpur in the BG train towards Lucknow but thanks to the delay and already asking our cab to return, we were literally marooned at this



Scene @ Nirmali, Bihar

nondescript village of Bihar. Then someone told us than the busy Siwan Junction is not far away from there. Thus, we decided to take an auto rickshaw and headed there. We narrowly missed to catch Awadh Assam express but then thankfully managed to secure three seats in sleeper class of Dibrugarh-Chandigarh Express entering right behind. We reached Gorakhpur without any arrangement for planned accommodation since we were to reach there next morning as per our original schedule. We had landed now at an unearthly hour of 1 am. Thanks to the booking office, we managed to secure a dingy officer's rest room to spend the night there. It wasn't comfortable at all but at least we got our backs to be straightened for the night as my Bihar trip culminated with some really fond memories which would remain etched forever in my mind. And memories are all that we are left with now as Bihar has long been obliterated from the map of meter gauge network as the last surviving vestige from Laukaha Bazar to Sakri via Jhunjharpur has ceased to exist.

All photographs used in this article were provided by the author only.





through the

Heartlands of Uttar Pradesh

Part-II : Pilibhit - Palia Kalan

From the Daylight to Night, its Meter Gauge All the Way....

Subhadyouti Bose

In the previous instalment of the once great Uttar Pradesh Meter Gauge Network, we had journeyed from Kolkata (Howrah) to Pilibhit via Shahjahanpur to ride the last remaining vestiges of the meter gauge tracks of the North Eastern Railway (NER). In this issue, we resume our journey from Pilibhit to the small town of Palia Kalan via Mailani, once a major junction on the route towards Lucknow from where the line towards Gonda and Gorakhpur branched out.

The train left Pilibhit already filled to the brim just after three on a hot autumn evening. Upon departure, we decided to follow the old adage - when in Rome, do as the Romans, and that is exactly what we did. We stowed our backpacks in one of the overhead luggage racks and had managed a 'seat' for two on the footboard! (something I would definitely not recommend to fellow travellers, although this was the custom in these regions once all the legitimate seats get occupied

with passengers). Now, since it was a hot day, the cool breeze that started blowing once the YDM4 picked up speed after leaving Pilibhit comforted us.

The trip to Palia Kalan may be divided in two different sections. The first stretches from Pilibhit upto Mailani while the other one is from Mailani to Palia Kalan. The first section had eleven stations en-route Mailani, which is 67 kilometres from Pilibhit but without any semaphores. A passenger train takes a little more than two hours to cover this distance while the express trains that hurtled on these tracks from/towards Lucknow used to take an hour and half. Although express trains had stopped running on these routes a long time back, the tracks were still quite well maintained, considering the fact that only five pairs of passenger trains connected Mailani with Pilibhit in September of 2016. The first scheduled halt after leaving Pilibhit is Diyuri, a small



Working locomotives lined up at Pilibhit

passenger halt located some seven kilometres away. The LP (Loco Pilot) of our train yanked the throttle after clearing the turnouts at Pilibhit and covered the short distance within ten minutes. This halt brought some respite to us since it was extremely hot and humid inside the compartment owing to the fact that it was crammed with passengers with hardly any space to stand for those who were not fortunate enough to find a place to sit. As the LP honked upon receiving the green signal, we hopped back onboard and sat down at our designated 'seats'. It did not take much time for the well-maintained YDM4 from the Izzatnagar Diesel Locomotive Shed (DLS) to notch up to the Maximum Permissible Speed (MPS) after departure from Diyuri. It was fascinating to be onboard a train hauled by the YDM4 class of engine that had almost become a relic after faithfully serving the Indian Railways for so long. Many such locomotives that have been taken off from active service have been plinthed outside major stations and railway establishments all across the country.

The 5-kilometre distance to Mala was covered in less than ten minutes. Mala is one of the larger stations on this route

6686 ready to depart with the passenger service from Pilibhit



Entering Shahgarh

and as soon as the LP applied the brakes, a huge crowd jumped in, making the already congested compartment even more unbearable. After a short halt of around two minutes, the station staff handed the token to the Assistant LP that would allow the LP to proceed to the next stretch of the track and on towards the next halt, Sandai, some seven kilometres away, followed by another major halt on this route, Shahgarh, located five kilometres beyond Sandai. We reached Shahgarh at around quarter to four after travelling for around forty minutes and 24 kilometres. At Shahgarh, a good number of passengers disembarked from the train while not a lot of them got onboard, thereby giving us some space to breathe inside the stuffy coach. Once we received the go-ahead from Shahgarh, we noticed that the countryside had now started to change ever so slightly. From Pilibhit till Shahgarh, we were passing along fields of freshly planted paddy. After crossing Shahgarh, the paddy farms were turning into grasslands and we could see tall clumps of grass all along the tracks; perhaps a precursor to the approaching forests of Dudhwa!

By four o' clock, the Sun had lost some of its intensity compared to what it was only a few hours back and it was becoming more and more comfortable to sit on the footboard and enjoy the rural countryside that was passing us by. Meanwhile, we crossed stations like Prasadpur, Puranpur, Udaiyapur Khurd, Dudhia Khurd, Kurraiya, where more and more people were now getting off the train while only a handful of passengers were coming onboard. The compartment was now only half full, allowing some passengers who had been standing for some time a place to sit and rest before they can get down at their destinations. At Sehra mau, where we reached at around five in the evening, we saw a long flat-bed rake, complete with a caboose at the Pilibhit end, signifying that this was possibly a major freight corridor along with it being a major passenger carrying route. Sehra mau is the last main stop before Mailani, the only halt in between being Akelahanspur, which is just a small wayside village halt. Just before Mailani, we entered



Flat-bed rake @ Sehramau

Lucknow division (NER) after having crossed over from Izzatnagar division (NER).

We made our way into Mailani at 5:15 PM, nearly 10 minutes before the scheduled arrival time there. As I have mentioned previously, Mailani was a major junction till even about a few years back when express trains to Lucknow used to ply on these tracks. Unfortunately, now, in 2016, Mailani has lost much of its importance as a junction after most of the routes were closed due to gauge conversion, barring the main route to Bahraich (curtailed from Gonda) via Palia Kalan, Dudhwa, Bichia and Nanpara. From Mailani, our train was scheduled to leave for Sitapur as the 52245 Mailani - Sitapur Passenger at 5:55 PM. Sitapur (106 kilometers from Mailani) is a small town situated approximately halfway between Mailani and the capital of Uttar Pradesh, Lucknow. I had personally wanted to travel down this line before it fell prey to gauge conversion but since it had already become dark along with the fact that the number of trains running on this route were minimal and that we had a pre-decided schedule to follow on this trip, I could only watch the MG workhorse depart towards Sitapur, plunging the station complex into near-

Gondola wagon rake @ Mailani



Evening rush @ Mailani

complete silence. As per our original plan, we (the three of us, myself, Somsubhra Das and Somjit Sanyal) were supposed to spend the night at Mailani and continue the remaining journey to Bahraich through the forests of Dudhwa the next morning, taking full use of daylight. With this in mind, we approached the station staff to enquire the availability of a retiring room at the station premises itself. For a regular traveller like myself, these retiring rooms are very useful since they offer cheap, clean and safe accommodation within the station complex. Retiring rooms in large and more important stations may require prior booking but ones like these are mostly vacant which do not require any reservation. However, when the station staff came to know that we were three of us, they told us that only one double-bedded room is available, and they cannot allow a third person in the room. After being told about this, we asked around for hotels in the vicinity of the station. Within a few minutes, it dawned on us that although this might be an important railway junction, but in reality, it is smaller than a one-horse town without any hotels around to spend the night. To be very honest, we were rather unprepared for this development and went back to the station thinking

Mailani Junction





Awaiting the inevitable

about our next possible plan of action. An RPF (Railway Protection Force) constable, after a few minutes of discussion, suggested we go to a town called Palia Kalan located at the edge of the Dudhwa forest. Since Palia Kalan was a much larger town than Mailani, we had much better chances to find ourselves a hotel for the night. Left with no other option, we decided to head for Palia and try our luck there. We quickly purchased tickets for us and boarded the next train for Palia, the Mailani - Bahraich Passenger, scheduled to depart at 6:25 PM. Since the rake had already been shunted to the platform, we deposited our bags in the overhead luggage racks and explored the station a bit before the departure of our train to Palia. At a short distance away, we saw a number of MG locomotives standing in a long line, similar to the ones we saw at Pilibhit. We could count at least half a dozen MG locomotives which had been kept adjacent to the platform and we knew these have been earmarked for condemnation which would eventually be scrapped. We were somewhat disheartened once we came to know about the locos fate and wondered if these could have been plinthed across small and large stations all over the

The Mailani - Bahraich passenger all set to depart from Mailani



The evening passenger crossings

country.

At the scheduled departure time, the loco attached to our train let out a shrill honk announcing its impending departure. By this time, darkness had already set in and it was difficult to see anything outside. After leaving Mailani, the track took a long right curve and we were about to enter forested territory from here on. As soon as we entered the forest, it became almost pitch dark outside and we could hear calls of the forest in the distance. It felt good to leave the concrete jungle behind for a while, something which we have become too used to these days. Our compartment had only a handful of passengers since this was the evening service to Bahraich. A few kilometres later, we reached the tiny station of Rajnarainpur, right in the middle of the forest. As soon as the train came to a stop, the only sound we could hear was that of the engine up front besides which it was completely silent. After a minute's halt, we left for the next station, Bhira Kheri, located 7 kilometres away, the penultimate station before Palia Kalan. Bhira Kheri was a slightly larger station and we waited there for around 20 minutes to allow a Mailani bound passenger to cross us. From here, Palia was another 14 kilometres away. Just after Bhira Kheri, we came across the Sharda river, which our train crossed rather gingerly. We reached Palia in another 20 minutes and found the station complex to be in complete and utter darkness due to a power failure – quite common in these parts of the country. The station staff were working around using dim oil-lit lamps. The entire thing had an aura of mystery and thrill, not having been used to such an atmosphere in any other station across the nation. We could see that there were retiring rooms over here as well and when we asked if we could stay the night, we were told that we could, but it would be a terrible night since nobody knew when the power would be back again. Soon, we tossed the idea of staying in a retiring room and decided to look around the town to find a place to stay instead. Before leaving the station premises, however, we took a stroll on the dark platform and we felt as if we have time-travelled more than a



The only ray of light...

Photo courtesy: Somsubhra Das

century back to the period of the British Raj and into the days of steam! We left the station in a couple of minutes and headed outside to seek refuge for the night. Now, Palia is not that large a town; just some hotels scattered across the place at the edge of the forest. This meant that we only had a few options at our disposal. Since power to the whole area was unavailable upto God only knew when, we looked for hotels that had a back-up power supply. After selecting what looked like a good enough place to spend the night at, we moved outside to have dinner before the whole place downed their shutters and went to bed. We found a small shack outside that was serving some warm chappatis with some kind of side dish which resembled curry, something which we relished at the end of a very tiring day.

Our plan for the next day was to catch the early morning



Pitch dark @ Palia Kalan

Photo courtesy: Somsubhra Das

service to Bahraich, the scheduled time for which is at 4:20 AM. Since we had to wake up quite early to catch this train, we hit the sack as soon as we reached the hotel. The cooler in the room didn't exactly cool us down but we were tired enough to retire for the day for getting a good sleep before the next leg of our adventure.

Our New Year 2022 issue will depict our journey (Part-III) through the Dudhwa National Park and the Terai region as we made our way towards Bahraich and Gonda the next day. The story of journey of branch line off Nanpara to Nepalganj Road as traversed by Somsubhra Das, three and a half years later, gets penned by him for the penultimate part (Part-IV) to get featured over our upcoming issue to complete the circuit.

All photographs provided by the author unless mentioned otherwise





The Chhoti Line

The Lifeline of Abu Road...

J L Singh

In the early 90s, the Indian Railways chose to convert its Meter Gauge (MG) sections to Broad Gauge (BG). Whatever the reasons for this momentous decision, it was a sad day for the romantics among the sincere rail lovers. With only about 2,400 kms of MG routes left on the network from a maximum of about 25,000 kms., virtually all rail enthusiasts have expressed the feeling that travel by Broad Gauge cannot match the romance of sitting in a rolling unhurried MG coach. Bill Aitkins, the naturized Indian travel writer, had this to say about the MG network:

"As a travel writer alive to the peculiar magic of steam locomotion I had the good luck to notch up in the late 1980's (before the uni-gauge decision was taken to uproot the chhoti line in 1992) coverage of the entire Meter Gauge system. I had gone to check out the claim that during the British period the Meter Gauge went to all four corners of the country, something that the Broad Gauge, by virtue of the terrain, had been at that time unable to achieve. My investigations took me laterally to the extremes of Ledo in Assam to Bhuj in Gujarat and longitudinally from Fazilka in Punjab to Tiruchendur in Tamilnadu. My journeying gave marvellous exposure to India's astonishing diversity and her railway personnel's ingenuity in problem solving. My findings suggested the British had not in fact linked the North and South through the Metre Gauge. The missing section lay between Khandwa and Hingoli and would only be completed by Indian engineers in 1961."

The Delhi-Rewari rail line was constructed and opened for use as a section of the Rajputana-Malwa Railway (RMR) way back in 1873. It was, in fact, the first Meter Gauge (MG-1000 mm) line in the country. Lord Dalhousie, the then Governor General (1848-1856), often credited with the introduction of the railway in India, was in favour of the Broad Gauge (BG-1676 mm) and all the initial lines in the country were laid to this gauge only. It was only by 1871 that MG was finally accepted and the Delhi-Rewari line was constructed. After being part of RMR, the line was subsequently taken over by the Bombay Baroda & Central India Railway (BB&CI), and finally, during re-organisation of the railways after independence, became part of the Bikaner Division of the Northern Railway zone of the Indian Railways. Today, it remains on the Northern Railway but as part of the Delhi Division. It was earlier a Meter Gauge double line. As a consequence of Policy Unigauge of the Indian Railways, one of the two double lines was converted to Broad Gauge in 1994 and the other in 2006. Thus, it is now a Broad Gauge double line.

With the opening of this line, MG lines proliferated leading to most of the present States of Rajasthan and Gujarat (except the BG lines of the BB&CI via Vadodara towards Delhi) which were covered by MG. After reorganisation of the Indian Railways into zones in the 1950s, Bikaner and Jodhpur Divisions of Northern Railway, along with Jaipur, Ajmer, Rajkot and Bhavnagar Divisions of Western Railway were pure MG lines. Later, when the port of Kandla was developed, a BG link was built via Viramgam to the new port.

Ajmer Divisions of the then Western Railway in the 1970s, well before 'Policy Unigauge' was launched. Today, Ajmer Division is part of the newly created North Western Railway. Of course, most of these lines have now been converted to BG. My longest posting was at Abu Road as the Divisional Mechanical Engineer of the Diesel Locomotive Shed located there. Abu Road was part of the Ajmer Division.

While traveling by an MG train gives an unhurried and

A YDM4A class Loco of Abu Road DLS

Photo courtesy: Mr. Harsha Vardhan



The Pink City Express

Photo courtesy: David Churhill

serene feeling, working at Abu Road (Code ABR) certainly did not. ABR then homed over 150 MG locos, making it the largest holding on IR at that time, BG included. In addition, while almost all sheds had only one type of locomotive, ABR had three - YDM3 and YDM5 which were of GM make and YDM4 ALCOs. Among the latter also, there were two types, YDM4A that had been imported from MLW and the DLW-built YDM4. With the Delhi-Ahmedabad mainline running via ABR, the two primary trains on the route - Delhi-Ahmedabad Mail and the Delhi-Ahmedabad Express were hauled by locos from ABR. In addition, in 1976, the Pink City Express, running at a top speed of 100 kmph, was launched between Jaipur and Delhi with locos from ABR. In fact, ABR locos even worked on NE Railway, reaching the railway via Achhnera.

By and large, YDM4 ALCOs worked on Ajmer, Jaipur and Ajmer Divisions. Most freight trains had been dieselised by then. The GMs worked more towards Rajkot and Bhavnagar Divisions owing to the lesser gradients on these divisions. When India went in for the export of diesels, ALCO did not have an engine to suit our requirements. They designed the 6-cylinder 251D engine for supply to India. GM had a 12-cylinder 567 V-engine but the engine was too high to fit into our maximum moving dimensions. They, therefore, reduced

A YDM3 class Loco

Photo courtesy: Roger Morris





A YDM4A class Loco of Abu Road DLS

Photo courtesy: Mr. Harsha Vardhan

the size of the loco wheels to accommodate this height. This meant that they could not mount the traction motors on the bogies; they fitted the traction motors (two of them - one for each bogie) on the loco body in the middle of the loco and drove the loco wheels through a series of universal shafts and gear boxes. This was a weak system leading to a poorer hauling power although the engine was capable of delivering better power than the ALCO. To add to that, the YDM3 had only two driving axles per bogie and against the YDM5 and YDM4's three driving axles.

The two Divisions of Northern Railway, Bikaner and Jodhpur, were served by diesel locos by the diesel shed at Jodhpur. Since we did have a fair amount of interchange, co-ordination meetings between the DME(D) at Jodhpur and ABR were common. Normally, the practice at all diesel sheds was that the shed conducted all scheduled inspections upto and including the 3-yearly schedule. The 6-yearly Periodical Overhaul (POH) was carried out at a central workshop which may or may not be on your own zonal railway. Thus, the ABR ALCOs went to the workshop at Ajmer. However, ABR was the only shed homing MG GM locos. A decision was thus taken that even the POH of the GM locos would be conducted at ABR. This added to the workload of the shed. In spite of all this, ABR shed did very well in that period and won the best diesel shed award a number of times.

ABR was a complete railway town. Apart from being the rail head for the hill station of Mt. Abu, it had nothing but the railways. Work apart, life was quite laid back. The only problem was that any person with school-going children was

The Pink City Express

Photo courtesy: Dinesh Hukmani



Photo courtesy: Somsubhra Das

either staying alone with his family elsewhere or the children were in hostel. Trips to Mt. Abu were common, especially since the railways had two excellent Rest Houses - Big Peaches and Little Peaches - there. As a matter of fact, I had spent my honeymoon at Big Peaches even before I was posted at ABR.

Normally, the DME of the open line division was the accident officer and accompanied the breakdown train as and when an accident took place. At ABR, the diesel shed officers were so designated as the Accident Relief Train was based at the ABR steam shed. Locos of the steam shed did shunting duties as well as running passenger trains on the section. As a result, I attended a number of accidents during my posting at ABR. The accident I remember was one where a diesel had lost control and had been made to run into the sand hump at Mori Bera station. At such accident sites you did not try and save the wagons but simply picked them up with the crane and dumped them on the side of the track. However, the locomotive had to be saved; it took us more than 24 hours to put it back on track and in a condition when it could be hauled back to ABR for repair and salvaging. Then the Accident Relief Train was provided with a steam powered crane for salvage purposes.

With all these experiences and incidents, my stay at ABR especially during its MG days was really interesting and unique to say the least as handling such a gamut of locos with myriad of classes was a worldliness in itself...

A YDM4 class Loco of Bhagat Ki Kothi DLS

Photo courtesy: Roger Morris





Emergence of the Gujarat Meter Gauge

A Chronicle of the Once Burgeoning MG Network of Gujarat

Rudranil Roy Chowdhury

Since its inception in the Indian sub-continent, railways have gradually emerged as the national carrier of the nation – thanks to the circumstances that led the British to realise the essence of railways in the land they ruled and the initiatives taken by the then Princely States to connect their own territory for transportation of their people and commodities. Undivided India was charted with four gauges that connected the nooks and corners of the nation with time. All the four gauges played a pivotal role in the growth of the nation but meter-gauge network held the key in numerous sectors where the challenges of tougher terrain were easily overwhelmed at lower built cost among other factors. The advent of a complex meter-gauge railway system in the Kathiawar Peninsula, Saurashtra State and State of Baroda under the then Bombay Presidency marked the beginning of a new MG era of modern-day Gujarat. This spreading of wings of the MG network can be attributed to the interests of the native Princely States along with the engagement of the Bombay, Baroda & Central Indian Railway

(BB&CI) and some other private players.

THE PRE-INDEPENDENCE SCENES

Early Days

In 1852, John Pitt Kennedy was introduced in London to Lieutenant-Colonel French, who had been Acting Resident at the Court of the Gaekwar of Baroda State. Colonel French wanted to set up a company to construct a railway from Baroda to Tankaria Bunda, in the Gulf of Cambay, for a distance of about 73 km. Kennedy joined him but instead of the original proposed alignment, they worked on a greater aspect which later culminated in the Bombay, Baroda, and Central India railway (BB&CI) in 1853. Their objectives included constructing the most effectual line from Bombay, through the central and north-western districts, to meet the already 'under construction' Calcutta-Delhi route, together with all the branches that such alignment could require.

On the 3rd November, 1854, the Governor-General Lord

Dalhousie, sanctioned the construction of the sections from Broach (now Bharuch) and Baroda to Ahmedabad, leaving the remainder of the scheme for future consideration with work set to be commenced from Bombay which later actually started from Surat only, in 1855. Come 1867 – the Bombay-Surat-Baroda-Ahmedabad route was complete and by 1871, the Bombay-Ahmedabad BG Main Line was northerly extended to Viramgam which finally reached Wadhwan, 62 km away, in 1872 which paved the way for maiden penetration of railways in the Kathiawar peninsula.

Kathiawar in the late 1800s was governed by as many as 193 small Princely States – the local potentates who acknowledged British control in return for local sovereignty. As the BB&CI stepped into the region, it marked a period of growth of meter-gauge railways, financed and operated by the native states. The problem lay in the fact that there were too many small states which had to be passed over. Only three larger States could afford to build such railways which led to multiple problems as many partners also preferring appeals to the local Durbar Governments for compensation. Despite of those initial hiccups, three major operating companies found their feet in putting a meter-gauge system in place thereby becoming the backbone of Kathiawar Peninsular railway system – **Bhavnagar State Railway, Gondal State Railway** and **Morvi State (NG) Tramway** (later converted to a meter-gauge railway).

Apart from the major players mentioned above, the companies which earned a name for their active participation in the growth of meter-gauge railway network in Kathiawar region were **Junagadh State Railway, Porbandar State Railway, Jetalsar-Rajkot Railway, Jamnagar State Railway** and **Dhrangadhra State Railway**. Later, many small networks also joined hands with the key players to intertwine a major MG network which shall come to the fore later in our story.

The Emergence of Bhavnagar State Railway

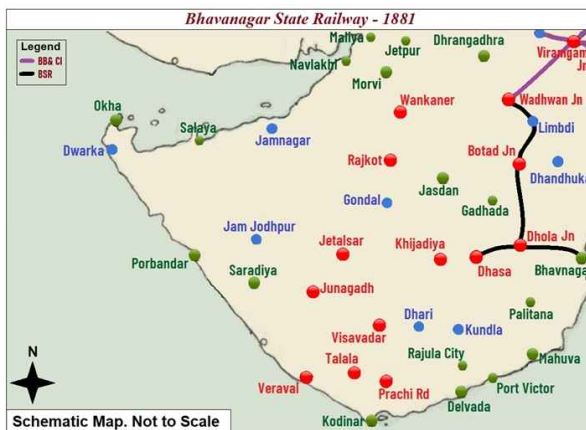
Several proposals were floated for construction of railways in Kathiawar region. Unconfirmed records state that during 1863, Maharaja Jaswantsinhji of Bhavnagar received a proposal to start a narrow-gauge line off Ghogha port like the Gaekwar's railway (GBSR) but was refused. Again in 1869, a railway to connect Gondal state to the sea at Ghogha, in the Bay of Cambay was considered important to develop the region. It was planned by private enterprise, but no surveys were made. During same time in 1869, as per Kathiawar reports, a survey had been made for a railway line from Junagadh to Veraval but an approximate cost of 40-50 Lakhs of Rupees was considered too high for the local Durbar to go ahead with.

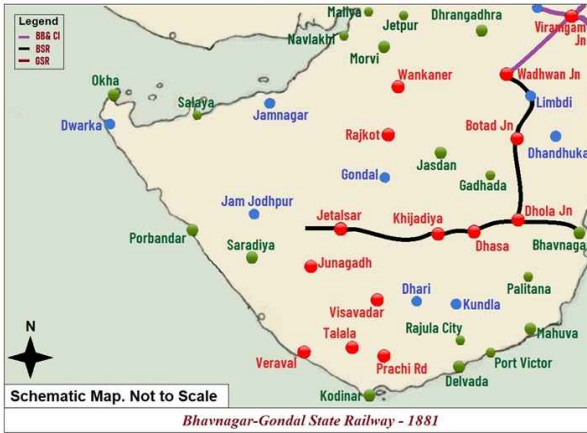
During the pre-independence era, Bhavnagar was a major state, in fact, the largest one in the region which was previously known as Gohilwad. Maharaja Bhavsinghji founded the state of Bhavnagar near Vadava village in 1743. In 1807, Bhavnagar State became a British protectorate. It

remained a major port for almost two centuries – trading commodities with Mozambique, Zanzibar, Singapore, and the Persian Gulf. Whilst Bhavsinhji was in power, Bhavnagar expanded from a small chieftainship to a considerably important state whose territory was further extended by Bhavsinhji's son, Jaswantsinhji and grandson, Vakhatsinhji Gohil. Bhavnagar remained the principal port of the state supplemented by Mahuva and Ghogha ports. Because of the maritime trade, the state prospered bigtime compared to other states, which cleared the way for a long-awaited state sponsored railway system.

During the late 19th century, the idea to construct the Bhavnagar State Railway was floated. In June 1877, steps were taken to begin the construction of Bhavnagar-Gondal line – a distance of 201 miles with funds from the Bhavnagar and Gondal States under British management. Building a meter-gauge railway from Bhavnagar to Wadhwan was finally sanctioned in November 1878. The line was to interchange at Wadhwan with the Bombay, Baroda Central India Railway (BB&CIR). In March 1879, Mr. Alexander Izat was appointed as the Engineer-in-Chief. The joint Administrators of Bhavnagar State employed Mr. R. Proctor Sims who was Bhavnagar's state engineer, to carry out the survey from Bhavnagar to Botad. Gondal State employed Mr A. W. Forde, to survey an extension from Dhasa to Dhoraji. The Government of Bombay commissioned Mr Hargreaves, Chief Engineer (CE) of Baroda Railway, to survey from Botad to Wadhwan. Construction started on 20th March, 1879 by the Bhavnagar state engineer and about 3 and half km of embankments were built. An agreement was signed in July 1879, mainly between Bhavnagar State and Gondal State which also involved the British Administration (taking charge of the security of the line), and a number of different States through which the line passed through. The earth-work continued in war footing with all possible haste and finished within an astonishingly short time by May 1880.

The Governor of Bombay inaugurated the mainline from Bhavnagar to Wadhwan on 16th December, 1880. The 167





km section had sixteen stations - Bhavnagar Wharf, Bhavnagar City, Gadichi, Vartej, Sihor, Songad, Sanosra, Dhola Junction, Ujalvav, Nigala, Botad, Ranpur, Chuda, Limbdi, Kharva, & Wadhwan City. This made Bhavnagar the first state to construct its own railway system without any aid from the British government as mentioned in The Imperial Gazetteer of India. A month later during January 1881, construction of a 24 km branch line of Dhola junction to Dhasa was completed having one intermediate station Mandava. This line met with the Gondal State railway line at Dhasa.

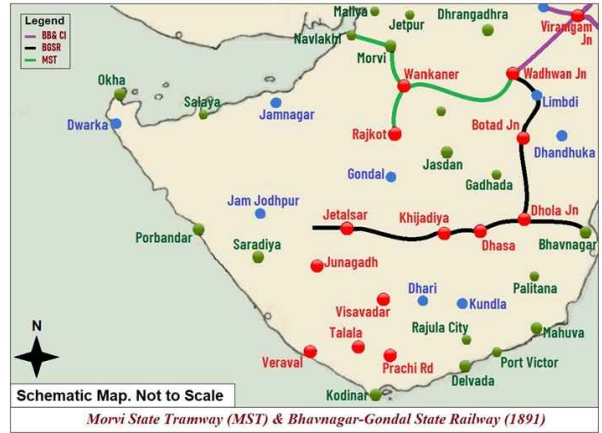
The Shaping of Gondal State Railway

Gondal State, the other key player of the Kathiawar region, completed construction of a 119 km meter-gauge line from Dhasa to Dhoraji by 1881. This line was dotted with nine intermediate stations along the route - Lathi, Atdala, Khijadiya, Chital, Mayapadar, Kunkavav, Khadkhad (Sultanpur Road), Vavdi, Jetpur, and Jetalsar. It was later extended to Jam Jodhpur.

During same year, the 'Bhavnagar-Gondal State Railway' was formed as an administrative coalition between the 'Bhavnagar State Railway' and the 'Gondal State Railway'.

Formation of Morvi State (NG) Tramway

Meanwhile in Kathiawar, another important state railway - the **Morvi State Tramway**, came into picture in 1884, with the construction of a 127 km of 2ft 6inch narrow-gauge Tramway line between Wadhwan and Rajkot via Wankaner. The line was opened to traffic in 1886. The line from Wankaner extended northwards to Morvi, a distance of 25 km, opened in March 1887, thus connecting Morvi to Wadhwan. The original terminus at Wadhwan was on the south side of the Bhogava River at Surendranager. There was an agreement between Kathiawar agency and British Government in 1897 which stated that the Tramway would not get linked to the BB&CI and also should not connect the Bhavnagar State Railway or the upcoming 'Dhrangadhra Railway' in any capacity. Even the Wadhwan Durbar refused



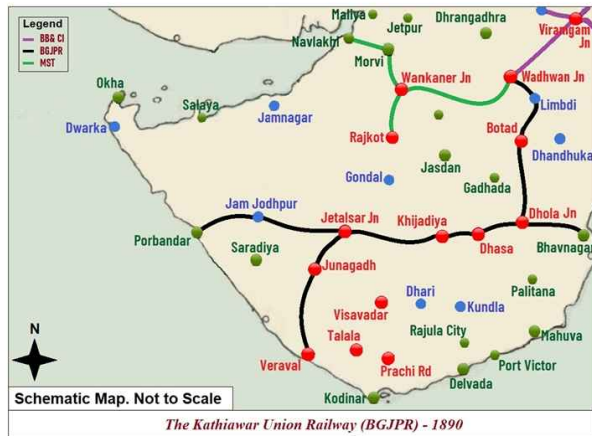
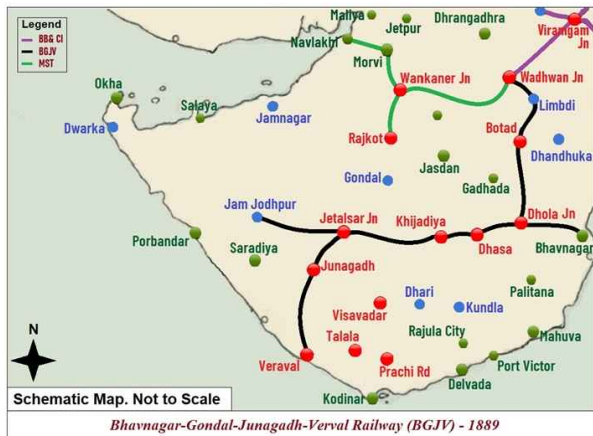
the Tramway entry into Wadhwan without an acceptance that Wadhwan owned the rights of passage over the Bhogava River Bridge. But only three years later, in 1891, the Tramway was extended using the Bhogava River Bridge and reached the station of the BB&CI at Wadhwan. This was against all the previous agreements which led to legal notices being served upon the Managers of BB&CI and Morvi Tramway. Meanwhile during 1891, the line from Morvi was further extended to the port of Navlakhi for the convenience of the people and for transportation of salt and cloth.

The Other Key Players

Some key meter-gauge action was gaining momentum in the backdrop which was likely to shoot up traffic in the Saurashtra region in the near future. Some significant operating parties responsible for building vital meter-gauge routes in this segment were - '**Rajputana State Railway**', '**Malwa State Railway**', '**Gaekwar's Mehsana Railway**' among the few. Construction of a MG line under the 'Rajputana State Railway' (RSR) to connect Delhi with Ajmer via Bandikui commenced in 1873. Later on, an idea to reach out to Ahmedabad to connect with the BB&CI broad-gauge network popped up. The Delhi-Ajmer section was completed by 1875. The RSR further extended its line from Ajmer to Beawur (now Beawar) - a stretch of 51 km which opened in May 1878. The 'Western Rajputana State Railway' was apparently created to complete the connection from Beawur to Ahmedabad via Marwar, Abu Road and Palanpur. On the other hand, by 1879, BB&CI had already completed construction of a 145 km meter-gauge section from Ahmedabad to Palanpur as a part of Ahmedabad-Delhi rail-route. This vital connection passed through Sabarmati, Kalol, Ambliyasana and Mehsana. Finally, by 1881, Beawur to Palanpur section also got completed which marked the opening of the Ahmedabad-Delhi 926 km MG trunk route.

The Setting-up of BGJV

As mentioned earlier, in 1869, a survey was undertaken and a proposal concluded that a Railway line from Junagadh to



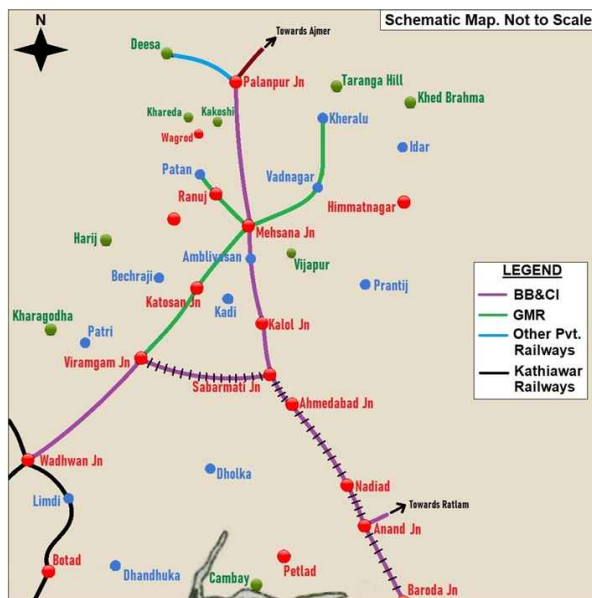
Veraval was feasible but the cost was too high for the Junagadh Durbar to give mandate to. In 1872, another line was proposed and the route from Veraval to Junagadh and Dhoraj was surveyed by Mr A. W. Forde, CE but was again rejected by Junagadh Durbar due to financial constraints. Finally, in 1886 things started to look favourable for the construction of a meter-gauge railway between Jetalsar and Junagadh City which was completed in 1888. It was further extended upto Veraval in 1889, thus completing the total route of 108 km under Junagadh State Railway (JSR). Hence, at Jetalsar Junction, a connection to the Gondal Railway main line was established which facilitated the JSR to join the administrative coalition of the 'Bhavnagar-Gondal State Railway'. The coalition briefly became the 'Bhavnagar-Gondal-Junagadh-Veraval Railway' (BGJV) until the advent of Porbandar State Railway.

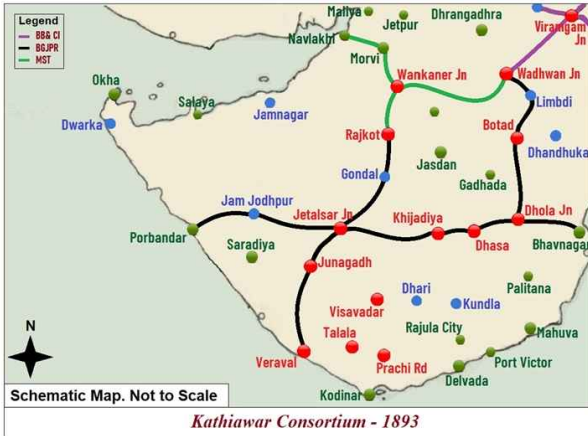
The Porbandar State Railway

The British administrator, Mr Lely, in charge of Porbandar State proposed to build a railway line from Porbandar to Dhoraji via Kandorna and Kutiana and started survey in 1886 but the Durbar decided that although they had the capital, they would not invest on the project. The British Government perceiving the need for the railway went to the Thakor of Gondal to raise support and various meetings were held between the agent and the Gondal state regarding the route. An agreement to construct the railway was signed early in the year 1887 between the States, so that construction could start soon after the monsoon season in September. Work for the 'Porbandar State Railway' (PSR) started in the same year with substantial investments from Gondal state and the 66km stretch between Porbandar to Jamjodhpur. It was opened to traffic in 1889, thus connecting PSR to the BGJV network. Soon PSR entered the operational union of BGJV and a new coalition was formed as 'Bhavnagar-Gondal-Junagadh-Porbandar Railway' (BGJPR) also known as 'Kathiawar Union Railway' or the 'Kathiawar State Railway'. The following year in 1890, a 6 km branch line was extended to Porbandar port from Porbandar.

The Gaekwar's Mehsana Railway

With the advent of 'Gaekwar's Mehsana Railway' owned by the Princely Baroda State, a major development in terms of meter-gauge rail network got underway in the Saurashtra side in 1887. They started construction of a branch line from Mehsana to Taranga Hill of which the first 34 km section from Mehsana to Vadnagar was opened to traffic by 1887 itself. By end of the year, line was further extended to Kheralu - 12 km apart, and was opened to traffic by 1888. In the year 1891, two more important branches got completed and operational - the Mehsana-Viramgam 64 km section and the stretch from Mehsana to Patan, a 40 km section via Ranuj. Again, in BB&CI, a small 27 km MG branch line was opened in the year 1893 between Palanpur and Deesa - jointly owned by the Palanpur Durbar and the British Government.



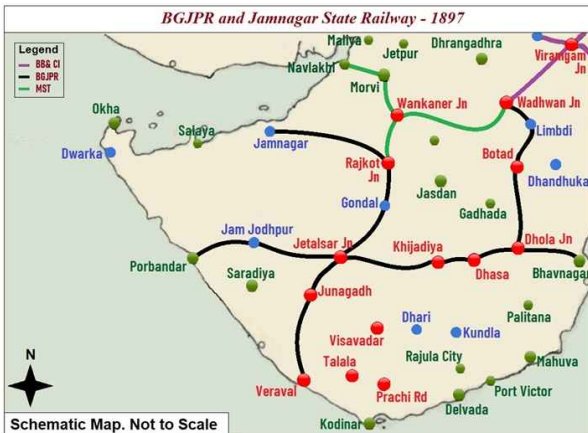


The Kathiawar Consortium

On the Kathiawar front, a crucial link started to get materialized. A consortium, comprising Gondal State (6/16 share), Junagadh State (6/16 share), Jetalas State (2/16 share) and Rajkot State (2/16 share) was formed and an agreement had been signed on the 14th November 1891 to construct a meter-gauge railway line between Rajkot and Jetalas. This marked the commencement of work for the 74 km Jetalas-Rajkot missing link which was finally opened to public in 1893.

Navanagar State Railway

During same time in 1893, work for another significant railway link saw the light of the day between Rajkot and Jamnagar, sponsored mainly by Jamnagar State also known as Navanagar State. The 87 km meter-gauge line was formally opened in 1897 with an extension for goods traffic to Bedi Bunder Port, 6.4 km north of Jamnagar. The line, called as Navanagar (Jamnagar) State Railway, was connected to BGJPR at Rajkot.



Advent of Ahmedabad-Parantij & The Dhrangadhra Railway :

A private company under the name of Ahmedabad-Parantij

Railway got registered in 1896. An 88 km metre gauge line was opened by them in early 1897 from Ahmedabad to Himatnagar via Parantij (now Prantij) which got further extended to Idar in late 1897. This line was used as the stepping stone for the Ahmedabad-Udaipur link which was developed much later.

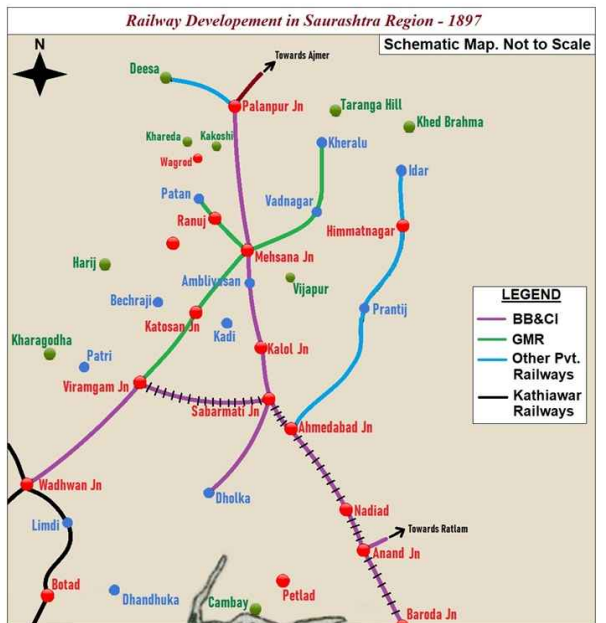
In the year 1898, the Dhrangadhra Railway (DR) – a short 33 km meter-gauge line from Wadhwan to Dhrangadhra was constructed and opened to traffic by the Princely Dhrangadhra State.

NEW LINES OF NEW CENTURY

The New Trend of Gauge Conversion from BG and NG to MG

In the 1902, the BB&CI started the gauge-conversion of the 62 km broad-gauge line between Viramgam and Wadhwan to meter-gauge to bring parity with the extensive meter-gauge network of Kathiawar Peninsula while a 53 km meter-gauge branch line off BB&CI started operating from 1903 between Ahmedabad and Dholka. This line was later extended upto Dhandhuka.

In a major development in Kathiawar, the Morvi NG Tramways re-opened its 119 km trunk line, between Wadhwan and Rajkot, as meter-gauge section in 1905. The 50 km stretch from Wadhwan to Than was constructed over a new alignment which led to closing of some stations like Dolia, Sayla and Muli but enabled the railway to directly connect with the MG network at Wadhwan without crossing the Bhogava River and the route length also got reduced by 8 km. The rest of 69 km Than-Wankaner-Rajkot Junction section was converted to MG on the original NG alignment with a few insignificant diversions. This led to direct meter-



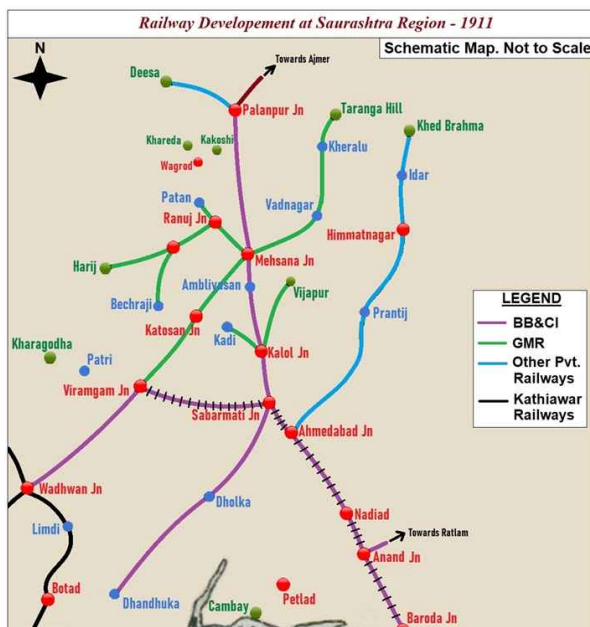
gauge connections to existing railways like the 'BB&CIR', the 'Dhrangadhra Railway' and the 'Bhavnagar State Railway' at Wadhwan junction with the 'Jetalsar-Rajkot Railway' running south and the 'Navanagar State Railway' running west at Rajkot junction on the other hand. This completed the major part of the Kathiawar meter-gauge railway network. Morvi continued to extend its narrow-gauge tramway further to Jetpur and on to Malia and another southeast from Morvi towards Tankara, both of which got operative by 1910. Again, in 1934, the Morvi State Tramways, converted its 48 km Morvi-Navlakhi NG branch line to meter-gauge, which was earlier opened as NG in 1891.

The Story of Extensions

During 1902-03, another important section of Gaekwar's Mehsana MG Railway came into existence – the Vijapur-Kalol-Kadi route. The initial 46 km section from Vijapur to Kalol was opened in 1902. Another 19 km stretch from Kalol to Kadi was completed by 1903. In 1908, a further two new branches got opened – a 34 km branch from Manund Road to Harij & a 27 km extension from Chanasma to Bechrajji. And finally in 1909, the remaining 13 km section between Kheralu and Taranga Hill of the Mehsana-Taranga Hill branch was completed implying the entire stretch of 58 km being thrown open for regular traffic.

Again, in Kathiawar, a 27 km branch line of the mainline from Sihor to Palitana was added by the Bhavnagar State, which started operating from November 1910.

At nearly the same time in early 1911, the Ahmedabad-Parantij meter-gauge was extended further from Himmatnagar to Khed Brahma.



1911 – The Watershed Year

The year 1911 saw a major change in the dynamics of the Kathiawar Peninsular railway framework. The famed railway union of 'Bhavnagar-Gondal-Junagadh-Porbandar Railway' (BGJPR) was dissolved. This incident led to opening of independent railway systems, operating all by themselves, though connected with each other, to keep the network running. Four new railway companies formed off the union - **Bhavnagar State Railway** with the administrative powers of 'Dhrangadhra Railway' as well; **Gondal Railway** comprising the Gondal railway, Porbandar railway and Jetalsar-Rajkot railway; **Junagadh State railway** and **Jamnagar State Railway** – all to continue working on their very own capacity.

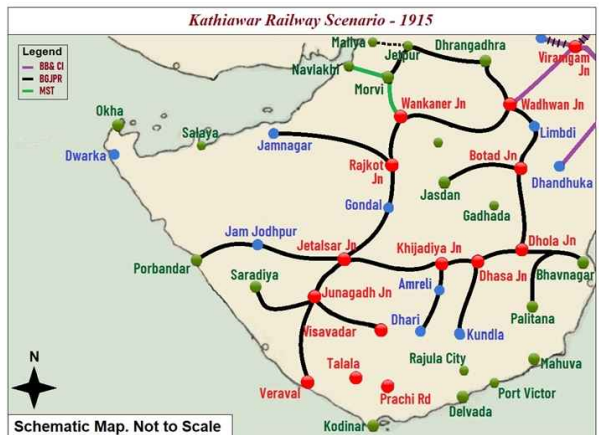
Extension Policy of the Newly Formed Companies

Fall of the great union railway didn't cause any hindrances in the development of the ever-growing MG network in the peninsular region. From 1911 itself, the 'Bhavnagar State Railway' started expanding towards the very strategically important Kundla extension. A 58 km stretch between Dhasa in the mainline to Kundla was opened to traffic in 1912. By 1913, the 'Bhavnagar State Railway' also completed construction of a 54 km branch line from Botad to Jasdan which was partly funded by the Jasdan Darbar.

The 'Junagadh State Railway' also started its expansion during 1911 to Saradiya from Junagadh – a branch line of 42 km which was completed by 1915. But before its completion, another branch line off Junagadh upto Visavadar was completed and the 42 km branch line was thrown open in 1912.

Meanwhile, in 1913 itself, the 'Gondal railway' started construction of the key 60 km branch line from Khijadiya to Dhari via Amreli. Khijadiya to Amreli was opened in 1913. The line ultimately reached Dhari by 1916.

In 1915, the line from Dhrangadhra was extended to Halvad – a 32 km distance and was opened along with a 'Quarry Branch', 4 km apart from Dhrangadhra. Both constructions were undertaken by the administration of



'Bhavnagar State Railway'. A proposal of extending it further to Malia was floated which was initially opposed by the Dhrangadhra Durbar but the proposal was eventually accepted several years later in 1925 when the administration of DR passed on to BB&CI in 1919.

Gaekwar's Mehsana Railway Extensions

During same time, development in the Saurashtra region was also going on at the Gaekwar's Mehsana Railway. The Vijapur-Kalol-Kadi branch was further extended by 8 km upto Bhoyni Road in 1912 and again by another 34 km to reach Becharji by 1921, thus completing a total route length of 108 km. Also, the Mehsana-Patan line was extended to Wagrod, a distance of 24 km, in 1915 and was further extended to Kakoshi in 1916 – about 16 km from Wagrod.

Junagadh & Bhavnagar State Railway Extensions

The 'Junagarh State Railway' line extension work from Veraval to Prachi Road commenced from 1918 and subsequently opened to traffic in phases. The total work of the 45 km branch line was finished by 1923. The line passed via Talala, Jambur & Jamwala enroute.

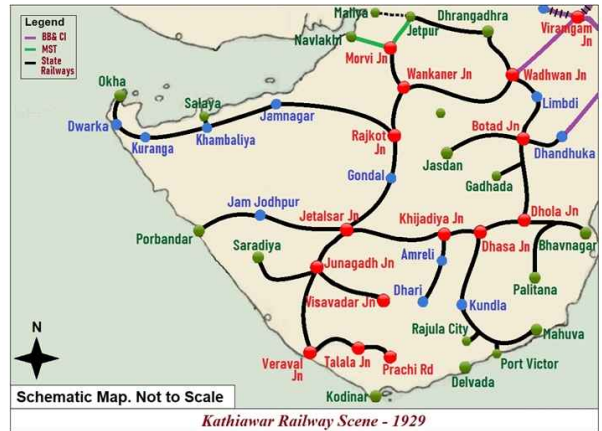
In 1921-22, an extension of 76 km from Kundla to Mahuva via Rajula Junction was completed by 'Bhavnagar State Railway'. This includes 7 km of 'Mahuva Dock Estate Railway' which worked for freight traffic only. By late 1922, a 48 km branch line was also constructed between Botad off the mainline to Dhandhuka where it met with the meter-gauge network of Ahmedabad-Dholka Railway mentioned earlier.

Okhamandal & the Jamnagar State Railway Extensions

During the same year 1922, a 60 km meter-gauge line was constructed between Kuranga and Okha via Dwarka by the Princely Okhamandal State. The line was sanctioned in 1913 itself but the construction was delayed due to the impact of the First World War. The Gaekwar's Baroda State Railway (GBSR) initially took over the management and operation of the 'Okhamandal State Railway'. Meanwhile, a 106 km extension of 'Jamnagar State Railway' meter-gauge line reached Kuranga from Jamnagar via Khambalia by September 1922. With effect from Apr 1923 these three connected lines - the 'Jamnagar State Railway', the 'Jamnagar and Dwarka Railway' and the 'Okhamandal State Railway' were amalgamated to form the 'Jamnagar and Dwarka Railway System' (J&DR) for the operational and maintenance purpose linking Rajkot to Port Okha on the Gulf of Cutch.

Bhavnagar & Junagadh State Railway Extensions

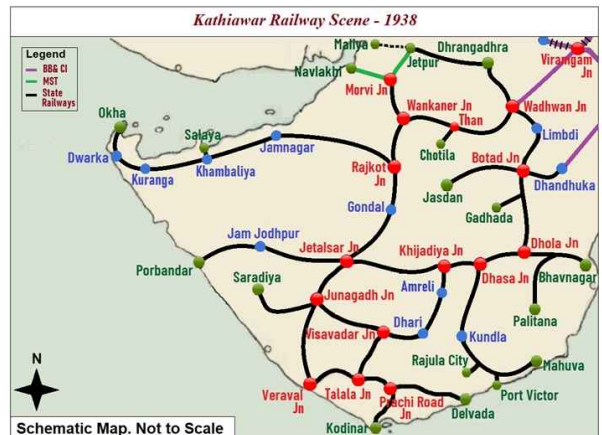
Between 1927 and 1929, the 'Bhavnagar State Railway' opened three more branch lines – a 10 km line from Rajula Jn. to Rajula town and nearby quarries in 1927; a 12 km line from Dungar to Port Albert Victor in 1928 which became an important oil terminal and finally a 15 km branch line from Ningala to Gadhada which was opened in January 1929. This was the last extension work of its MG network by BSR.



From 1932 onwards, the 'Junagarh State Railway' kept on expanding its network linking some vital dots in the southern Kathiawar region. A 32 km extension from Visavadar to Dhari was completed by 1932 where it met with the Gondal Railway network which in its turn added a 20 km MG branch line starting from Than Junction to Chotila in 1926. Another small extension was commissioned in 1936 by the Gondal Railway between Kunkavav in the mainline to Bagasra – a distance of 20 km. This was the last MG extension by Gondal state.

Between 1934-35, the Veraval-Prachi Road line was extended to Delvada coastal town via Una – a total length of 95 km. Again in 1936, the first section of the 47 km branch from Talala Jn. to Visavadar Jn. was completed upto Sasan Gir – a distance of 18 km. Construction of remaining 29 km section from Sasan Gir to Visavadar was delayed due to dense forest and difficult terrain and was finally completed only by October 1937 although the entire line was sanctioned in the year 1929 itself.

By the end of 1937, construction of another 26 km branch line from Prachi Road to Kodinar town was completed and opened to traffic by January 1938. This branch line was



commissioned in the year 1935 and the construction carried on under the funding from Baroda Durbar. This was the last railway expansion work carried out at Kathiawar Peninsular MG network by any of the Princely States.

THE POST-INDEPENDENCE SCENARIO

The extension from Prachi Road to Kodinar town by the 'Junagarh State Railway' in 1938 happened to be the last railway expansion work in the Kathiawar Peninsular MG network by a Princely State. Independence triggered the merger of various Princely States into the Union of India and merger of various Princely States' railways into one single State Railways became imminent. The various Princely States of Saurashtra and Kathiawar were merged to form the Saurashtra state. Similarly, the Government of India merged various State Railways of Gujarat into a separate entity called **Saurashtra Railway** in April, 1948 comprising of a total 2756 km of meter-gauge network. On 5th November 1951, the 'Western Railway Zone' of Indian Railways was created among other new zones across the nation. The Western Railway Zone was formed from the merger of BB&CI, Saurashtra Railway, Cutch Railway, Rajputana State Railway & Jaipur State Railway, thus rationalizing railways on a greater and broader aspect.

All was going well for the meter-gauge network of the country for the next few decades until the advent of Project Uni-

gauge in 1990. This marked the beginning of obliteration of meter gauge and smaller gauge network which gained pace post 2011 with weird closures and conversion of gauges over those zones where MG was successfully running with high patronage. Slowly but surely almost all prominent MG network was done away with by 2020 with just a few surviving the axe – some running with a heritage tag but of no use for daily commute while others operating due to clearance or the lack of it from forest department. Meter-gauge nearly vanished from the Indian railway network as a total of 24,153 km of operational meter-gauge network in India from 1947 has been reduced to a mere 2304 km by March 2021. Thus, the famed 'Unity in Diversity' of gauges in the Indian Railway system was dealt a dual blow of 'Mission Raftaar' and 'Unigauge' which ultimately annihilated the once flourishing meter-gauge network as sun came down on the golden era of smaller gauges in India!

Last of The Surviving Meter-Gauge Routes as on 15.08.2021

- **Bahraich-Nanpara Jn-Mailani**
- **Nanpara Jn-Nepalganj Road**
- **Mathura- Vrindavan**
- **Marwar Jn-Mavli Jn**
- **Amreli-Veraval**
- **Junagadh-Visawadar**
- **Talala-Delvada**
- **Mhow (DADN)-Omkareshwar Road**
- **Ooty-Mettupalayam (UNESCO World Heritage)**





Train to Patalpani

The Tale of Misty Clouds, Emerald Hills, a Splendid Waterfall and a Heritage Train

Somsubhra Das

Monsoon – often portrayed as the season of love when the sound of the rain, the chirping of birds and the embellished glittery green weave a web of romanticism around you. It is an intrinsic love affair with the rainy season when clouds caress the hills and mother nature wields paintbrush to warble a rhythm divine. And when the rhythm of the track sounds syncs in harmony with the trickles from heaven, a melody of rhapsodies enraptures the soul. So, how can a ferroequinologist resist and hold back the lure of a train journey through the monsoons. Obviously, I too couldn't remain stoic towards such divine sensuous intervention!

Thus, my monsoon sojourn was only a matter of time but to which place! As I wondered about the prospect of visiting any of the ghat sections of railways, a certain advice crossed my mind. I recalled what they had said, “Kabhi baarish ke time aye sir, dekhiye jalwa inka....” (Do come in the monsoons to witness its juggernaut). Now, who are these ‘they’ and whose juggernaut to watch? ‘They’ were the co-passengers from my Mhow-Akola Meter Gauge (MG) trip of February’16 talking about the blitzkrieg of the Patalpani waterfalls during

monsoon. February implied the heart of India still enjoying mild winters with warmer noon and dried waterfalls with minimal greenery around – certainly not the best of sights to behold. Thus, going by their recommendation, I planned a monsoon visit to the place which ultimately happened three seasons hence, in 2019. The second motivating factor was to catch a glimpse of the Heritage Service introduced earlier that year.

Starting off

I deliberately avoided the regular Indore link (Shipra Express) from my city, Kolkata, to explore a different path. Thus, I got my tickets booked in the weekly Bhopal Express which then had a change of traction at Chopan – from Electric to Diesel. Also, the path traversed, after Dhanbad, was far more interesting and engaging than the Grand Chord. While the colliery belts offered a unique landscape that evening, the evergreen Sal corridor drenched with occasional moderate downpour presented a green corridor next day. By evening, our train made it to Bhopal, almost on schedule – thanks to

the plenteous slacks. After spending a few hours at Bhopal amidst intermittent heavy showers, I managed to have supper before boarding the Bhopal-Indore Express. A mere 260 odd kilometers was about to be covered in five and half hours! Slapped with crawler of a timetable, the train had to arrive before schedule and it did by more than a good 45 minutes. It was nearly 4 am when the coach attendant alerted the passengers about the train's arrival at destination. Getting down with drowsy eyes, I reorganized myself and rearranged my belongings to deposit the majority of them with the Cloak Room as my Retiring Room booking was from 8 am only. I couldn't afford to wait such longer as I had planned to take the first MG service (9.15 am) out of Mhow. The non-availability of any connecting service from Indore for that very MG service baffled my analytical mind for a while only to realize the dwindling importance of MG represented through truncated and diminishing route lengths. Left with no other options, I boarded a Mhow bound bus as the Yatri Seva' Steam Locomotive YG #4028 still continued its show under artificial lights at the Indore station entrance. Finally, I was at Mhow after an hours' journey in the small tiffin box, hankering for more and more passengers en route. Meanwhile, sun was not showing up due to monsoon showtime. The station was just a few strides away and the station building was a familiar sight to me owing to my previous visit there. As the station complex showed up, I said to me, "Alas, dear me!"....

On a Name Changing Spree

Of late, Indian Railways has been under a name-changing paroxysm which have resulted in dissolving identities of so many stations, trains and places with disdain. If this syndrome can claim Chennai, Allahabad and Mughalsarai among others, then the fall of Mhow is certainly no big deal! Dr. Ambedkar Nagar, as it's known these days, seems omnipresent at Mhow railway station. It gives me goosebumps to identify Mhow as Dr. Ambedkar Nagar retaining my due respect for the nation builders intact. It's also a matter of debate whether these daily overdoses of nationalism would have pleased those chivalrous gentlemen! However, nothing much have changed since except the station nomenclature there. My attempt to make tickets for Kalakund got no headway as it was too early in respect of the

Certain things never change.... Traces remain....



train's departure and the counters were shut.

A Visit to the DLS

Mhow is better known as the cantonment town of Indore district in Madhya Pradesh founded by John Malcolm in 1818. Geographically, Mhow finds itself in the southern fringes of the Malwa plateau which gives in to the Vindhayas in the west. The Meter Gauge Diesel Loco Shed (DLS) at Mhow is about a kilometer walk from the platforms. Thankfully though, they hadn't changed the DLS name. Once a shed buzzing alive with locos, as I found out in 2016, the shed looked as if it had passed its prime with fewer locos to maintain. Decrepit locomotives lying hither and thither with open chassis and skeletons made to look the shed more like a mortuary than a healing center where the dead outnumbered the working ones. The locos which were serving with all might just a couple of years back have now been relegated for scrap auction – a destiny assigned to be met by both the machine and its creator. Now, who can stave off the inevitable – none, I guess! Time has been cruel on these little horses.



A deserted Mhow DLS

Being only 7 in the morning, I found no souls around the DLS to help me with their current holdings. A sole live loco was performing shunting duty with some flat beds as I progressed further towards the turntable which looked to be still in use. Meanwhile, I noted that neither the Ratlam BG Alco livery could seldom be found on any of the Mhow machines nor the erstwhile shed markings. Instead, Dr. Ambedkar Nagar had got inscribed on all locos, now painted with a chocolate brown shade which looked anything but monotonous. Heartbroken, I was eagerly looking for those two fancy liveried YDM4s to get over that atrocity. By stroke of luck, I found both #6717 and #6736 in deep slumber inside the DLS. The sight filled my heart with jubilation as something different was at least present to sooth the eyes. The heritage livery looked straight out of the pages of a fairy tale story book with vibrant chromes captivating attention. The art work looked to portray a theme of jungle safari with elephants and tiger featuring in the vinyl wrap. Mhow DLS still looked a self-equipped DLS with the ability to handle everything, well it had to, as all the YDMs plying the erstwhile Akola-Mhow stretch didn't had any other backups.



Old wine in new bottle

So, Mhow DLS was the principal support system for this celebrated long route.

With not much left to explore, I left DLS with a mixed bag of emotions – a downhearted feeling for the ever-shrinking MG network in the nation resulting in shutting down of routes coupled with a sense of content about the fact that the rusting steam locomotive #YP 2803 which was lying in tatters during my last visit there had finally escaped the axe of being scrapped – it has now been plinthed at the premises of the Varanasi Cantt. Railway Station. A substantial time has elapsed by then as I scampered back to the platforms across the MG-BG Diamond Crossing. While buying tickets for Kalakund, the staff on duty refused to issue return tickets for reasons best known to him.

On Board

Meanwhile, passengers have started to crowd the platform to avail the first service. As soon as the train got parked, people thronged for seats. Observing the state of affairs, it looked as if standing on the door itself could become a tough proposition. The huge rush also underlined the significance of the entire route which now serves upto Sanawad only. I managed to get myself positioned at the door after overcoming the jostles with the last-minute entrants. It was getting a bit suffocating and stifling until our metal snake got going. Cool and gentle breeze was just about enough to sooth the gagle inside.

The appeal and excitement that monsoon brings with it has its own charisma which painted a stunningly different Patalpani for me. The viridescent vegetation post Mhow was unfolding the grandeurs ahead. As we began to climb the gradients, the greens began to intensify and envelope us. Moving at a sedate speed with a 15 kmph PSR all over the place, we soon found ourselves at Patalpani station. The station looked like an unperturbed nest set amidst a kingdom of peace. Our wait got a bit longer and after a rather delayed departure, our train glided past the Patalpani falls. By whatever glimpses I could manage to sneak peek into, the falls looked spectacular, gorgeous and majestic! Meanwhile, the climb had just got steeper – not steep enough to attach



Piercing through the hills...

any banker locomotive which becomes a prerequisite for the return journey though. Vast swathes of emerald hills were suddenly soothing our eyes with some lush greeneries while the swirling Choral river around the juttied-out rocks completed the paradisiacal magnificence. Tunnels, viaducts, curves – this route has it all for what it takes to be fascinating journey. As our caterpillar made its way up the green highlands, 4 tunnels laced our path – all dating back to 1874 and being part of the then Rajputana-Malwa Railway. The building years (1874-1878) of the Tunnel #1 not only speaks volumes about the heritage it embodies but also about the Horse-Shoe shape of this nearly 150 year-old tunnel. History peeped through every nook and corner of this route. Erecting viaducts with gripping heights amidst the treacherous deep gorges of the Vindhyas have been the cornerstones of this alignment. Some of these were built with open foundations while the abutment along with the piers were constructed using coursed rubble stone masonry technique during those days. Re-girding was done though in 1940-41 but accomplishing such feat in those days with limited resources was no mean achievement.

Kalakund and Kalakand

The solar powered semaphores directed us into Kalakund

Semaphore standing tall







A tranquil Kalakund

station – my destination. Never I had seen a greener Kalakund than this, never I had come across nature's bounty plundered in such a fashion. The old station building with wooden structures just fitted in the pleasant ambience with beautiful artwork on the masonry walls. The single platform housed a myriad of levers, perched a few feet above the platform height, meant for controlling the points and sending directions to trains. Keeping company on the other side of the platform was a 1977 built MG coach refurbished into a Heritage Rest House along with another 1992 built MG General coach whose exact purpose could not be deciphered. Iron horse #6726 was lying dead on one of the loops – little did I know that this loco which was doing some goods shunting at Mhow in the morning would turn out to be the banker loco for the reverse service up the ghats to Mhow. In nearly no time, the over-occupied train with #6660 at its helm pulled out for Sanawad with the loco putting up a cloud of smoke to evoke an old age charm. A signage has been put on the platform which mentions the existence of a heritage Hanuman Temple, some 50 meters away from Kalakund station.

Kalakund station has an aura of mysticism and solitude that

MG carriage converted to Rest House



The famous Kalakund of Kalakund

characterize it! 'Kalakund' stands for 'black pool of water' and the name of the place is derived from the fact that the uneven rocky beds of the Choral gave rise to multiple pools (kund) in the adjoining area. Kalakund hogs the limelight for the famous Indian sweet Kalakund – my second reason for my second visit here. During my last tour I couldn't quite manage to satisfy my sweet tooth, thus, I simply had to dab on this delicacy this time around. The signage at the platform showing 'Kalakund ka prasidh Kalakand' (The famous Kalakund of Kalakund) made an interesting read but a scan through the vendors across the platform revealed a different scenario – I could detect only one seller selling the iconic sweet. I found two flavours in fray – the original version while the other was some kind of a blend with chocolate flavour. Both tasted alright but the expected essence was definitely missing. On being enquired, the vendor expressed his fear and concern about the waning business that once defined Kalakund. The situation got worse since the railways increased the annual license fees by three-fold which came with a mandatory cap on the selling price as well. The business simply plummeted as vendors struggled to make both ends meet resulting in a two-way crisis – primarily, the vendors giving up the trade thereby pushing their beloved product into obscurity and secondly, the few who could only just about manage, resorted to compromising with the quality of the product in order to keep the business going against all odds. It's a real travesty as the railways are busy developing the Kalakund station as a heritage property but the very iconic sweet that marks the culture and identity of the natives around is under serious threat – two facets of the same coin but telling strikingly contrasting stories....

Until my train back to Patalpani arrived, I preferred loitering in the adjacent greensward of the station area as the Choral river babbled past the sylvan slopes of the high hills. Vistas of green presented a tranquil of serenity – unmatched and nonpareil. Everything looked like picture perfect. Getting lost amidst the picturesque locale seemed obvious! After nearly an hour or so, the unperturbed bliss got breached with the reverberating honks from the incoming train powered by YDM4 #6638. Also, it was time for the little giant #6726 to wake up and join duty. The train's arrival instrumented a



The downhill passenger arrives at Kalakund as the loco belches its heart out...

sudden change in the vibes of the place with hawkers yelling, passengers screaming and railway men rushing to attach the banker – it seemed like a knee jerk reaction that catapulted the idyllic moments into a scurry. A few minutes into this, the unique spectacle of an MG train attached with locomotives at both ends emerged, seldom any of the surviving MG routes in the nation witnesses this spectacle of a double headed MG train. The locals were also seemed aware of this practice. Now with everything in place, off we went.

Back to Patalpani

While leaving Kalakund, the banker locomotive had started to chug its lungs out on a gradient of 1 in 41. Our highly patronized service struggled with its climb up the steep gradients. A forty-minute rumble along the Vindhya put us back to Patalpani where the Heritage service was awaiting our arrival. Being an overcast day throughout, the drizzles often came and disappeared but nothing could deter the tourists of the heritage train from enjoying their ride. The heritage liveried locomotive #6736 looked at the center of all attraction and everyone wanted a slice of the pie and have a photograph with it, yes it was 'age no bar' for almost

The enchanting Choral Valley scenes....



Excitement @ Patalpani with the Heritage liveried Loco

everyone around. At one point of time, trippers were all over the locomotive which showcased a plethora of colours with a little bit of art work in its livery. The cute engine looked to be the cynosure of all eyes, especially children but their mothers and families along with the younger generation were also having a ball. Everyone around looked brimming with joy....

As the clock ticked away, the heritage train departed for the Patalpani waterfalls site, some 200 meters away, which had been developed for this purpose. I took the trail across the iron sleepers along with many families who were there for some weekend feast. On reaching the newly built watchtower at the site, it was a feeling of déjà vu. The vigour and exuberance of the waterfalls just left me awestruck. The beauty of the Choral river plunging a good 300 feet was worth a sight. As per the locals, the supposed fathomless depth of the falls had something to do with the name of 'Patalpani'. While the yards of green canopy around the falls mesmerized the onlookers, the sound of the milky downflow through the craggy precipices was like music to the ears! But not everything is rosy about this place. There had been incidents of flash floods leading to fatal accidents in 2011 that have somewhat marred the romanticism about the

A sudden burst of chromes at the Tourist Stop for Heritage special...





The Heritage liveried YDM4 # 6736 @ Patalpani station



Modified Heritage liveried tourist coaches

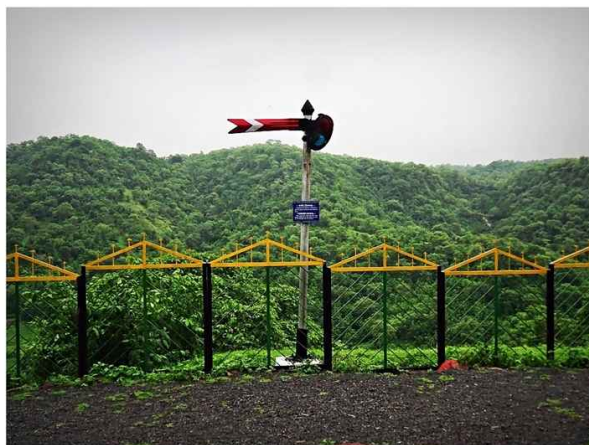


Mesmerizing Patalpani Falls

place. Following that, the administration has cordoned off the surroundings with high railings and have stopped tourists from entering the furious waters of the falls. Even stones in and around the tracks near the falls have been marked with caution signs for tourists with clear instructions of not to venture out in the falls. But all these acts of precautions didn't apply to the simian families who were having all the fun near the torrent. However, beyond all these unfortunate events, the place looked an absolute nature lovers' delight where one can unwind and silently gaze at the gushing water. The colourful train berthed just near the cascade added to the aesthetics.

As you start falling in love with the place, your attention would be diverted towards the whistles of the train's guard and its attendants for shepherding back the tourists scattered all over the place. The LP sounded the hoot quite a few times for alerting its passengers for taking the train ahead by another 300 meters or so where a second view point had been built and adorned with Warner semaphore and benches with sheds. Meanwhile the steady mizzles had turned into incessant showers as the wet train curved and crawled away to the distant halt. The sight invoked a deep sense of wilderness as the child in me exulted in euphoria!

There goes the train....



The Warner Signal 'Semaphore' with a fish tail...

An unabated desire to go back to my good old childhood days overruled all the argumentations of a sane mind as I began to walk the length to the scenic falls with raindrops tingling my head. It seemed as if I had broken free from my inhibitions to get myself showered as the sky opened to pour its heart out in a manner unrestrained and unabashed.

After soaking in the spontaneity of freedom and being completely doused by elements, my wet outfits reminded me that it was time to head back to Indore rather than waiting for the return service. Getting back by road seemed to be a difficult proposition as the Patalpani falls site lacked any public conveyance. However, a Good Samaritan helped me out to reach the trekker stand for Mhow – some 5 kilometers away with his bike. This showed that ours is still a country vibrant with hope, belief and fraternity. Reaching Mhow, I boarded the DEMU to check into my room at Indore and take adequate rest for the journey ahead to the Rewari Steam Shed.

The Rail Enthusiasts' Society (RES) Connection

In 2017, RES had organised a hike from Mhow to Patalpani with 8 participants. With the shadow of Project Unigauge looming large on the route, members of RES decided to make a plea to save this historic stretch. Led by JL Singh, Vinoo Mathur and Sanjoy Mookerjee – the members of the Society lobbied hard with the Railway Board and Western Railway until decision of retention of the MG alignment for running heritage trains was arrived at. This is one of the many feathers in the cap that the Rail Enthusiasts' Society can boast of. Ultimately, in 2019 the heritage service became a reality amidst much fanfare! The coaches earmarked for heritage service were wrapped in vinyls bearing prints of the MG train passing through the entrancing Choral valley. Interiors of the coaches were revamped with wallpapers throughout the ceilings and doors with photo frames over every window depicting the beauty of the ghat section and history of the route. A large LED screen equipped with live feed from the camera fitted in the last coach gave an overall facelift. The recliner seats looked comfortable with 2X2 arrangement and adequate leg room.

RES had even proposed to use steam locos for the runs but



Heritage Special Tourist coach interiors

that has not been done as yet. During my visit to the Rewari Shed two days later, I came to know that Steam Locomotive #YG 3415 was being readied to serve the heritage train services of Patalpani though it's yet to reach Mhow. We, the members of RES, are eagerly waiting for the re-introduction of steam for the heritage runs with harbouring hopes to witness that someday, although we are aware that several challenges have to be overcome to achieve this. My heartfelt thanks to RES for their initiative and pivotal role in persuading the railways to introduce this merry service which could ferry a happy bunch of souls to get lost in this curious world of fantasy, ecstasy and history. This doubled my fulfillment as a member of RES.

Memoirs

Looking back, my first contact with the Mhow-Akola MG service dates back to 2007 when I was on a family tour across the Hindustan ka Dil. I had spotted a few trains then as I clearly remember the MG service coming right upto Indore and Ujjain. In earlier days, the relatively dense MG section of southern parts of the country had a direct



Journey back towards the plains

connection with the north-western fringes through the Akola-Khandwa passage. The legendary Meenakshi express used to traverse this very route from Jaipur to Secunderabad, such was the expanse of MG network then. The present-day service from Mhow terminates across the Narmada at Omkareshwar Road – the home to one of the twelve Jyotirlingas of Lord Shiva as per mythological beliefs. My 2016 visit was all about the Akola-Khandwa-Mhow MG ride through the Dhulghat Spiral while this instant journey was all about coming back for the best phase of the journey to live life once more. Truly, my travel across this epochal route had come full circle.

This trip to Patalpani will always hold a special space in my heart as it didn't remain confined to the diary of a ferroequinologist only. It was more about a journey across nature and culture where a magical waterfall unleashed its beauty, where the woods oozed greenery and a train with legions of shades filled my heart and soul with pristine delight and paramount bliss. It was truly a tour that bestowed me with moments to savour for a lifetime....





The Legacy of the Meter Gauge Electrics

YAM1 – The Lone Meter Gauge Electric Locomotive of the Nation...

Anamitra Bose

What's the first thing that comes to your mind when Meter Gauge (MG) routes and locomotives are discussed? Be it for a layman or a ferroequinologist, the first thing that dawns on you is either a YG steam puffing amidst the arid landscapes of Thar desert or a diesel ALCo locomotive YDM4 proudly chugging with a passenger service through the lush green forests of Dudhwa. But seldom you will relate to the spectacle of a superfast express rumbling and sprinting away with a small and innocuous 'electric' locomotive in the lead! Yes, the 'locomotives' in focus here are the one and only YAM1s and barely a few can identify the nuances and the services rendered by those little horses of Japanese origin.

Down south, Southern Railway's trunk meter gauge route from Chennai Egmore to Madurai was electrified upto Villupuram in 1931 and was subsequently AC-fied with 25Kv 50Hz AC traction in 1965, thus doing away with the DC traction of the pre-independence era. It used to be the sole electrified metre-gauge section in the entire country. For the then new AC electric section, the immediate requirement of

metre-gauge AC electric locos arose. In an unanimous decision by the Railway Board, it was settled that such locos be imported from Japan and the Japanese consortium consisting of the three Japanese tech giants namely, Hitachi, Mitsubishi and Toshiba, who already had a huge impact on India's locomotive history, especially electric locomotives, were bestowed with the responsibility to fulfil the immediate demand. The Japanese consortium had already delivered WAG2 and WAM2 by then which were the torch-bearers of the AC traction of the nation, thereby laying the basis for more successful indigenous counterparts later on. As per promise, the Japanese consortium delivered 18 YAM1s to the Indian Railways in 1964-65. Tambaram was chosen as the home of these cute little machines which entered into regular service from 1965. Soon, the locos became the identity of Southern Railway's MG trunk route. YAM1s along with the MG EMUs, both ruling the meter gauge far south, was a novel sight to behold and cherish for the rail enthusiasts.

YAM1s were literally small, measuring only about 13.1 metre



21916 with Quilon Express

Photo courtesy: George Woods

in length and 3 metre in height. The locos carried the typical Japanese locomotive looks.

From the mechanical point of view, the loco had the unique monomotor bogies and B-B configuration. B-B arrangement, according to international nomenclature represents that type of wheel arrangement where two axles in a bogie are mechanically connected or coupled with each other. The axles are not individually powered by a traction motor, different from most other Indian locomotives. Instead, each bogie had a single traction motor mounted on it, thus making it a monometer bogie. And what is a bogie? A bogie is a framework in the lower part of the locomotive consisting of wheels and axles and is connected to the main shell of the locomotive.

The heart of an electric locomotive lies in the traction motors and the electrical systems driving them. YAM1 used to be a DC electric locomotive implying that it ran with DC traction motors. The electrical propulsion system of the locomotive was of the contemporary era, and was built with rustic electromechanical components rather than solid-state devices and software. The 25KV 50Hz AC traction was collected by one of the two Faiveley AM-12 pantographs

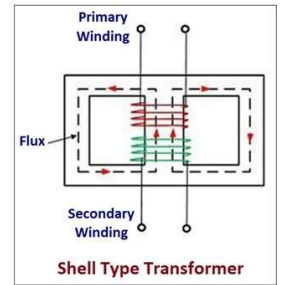


21917 leading the Kanchipuram Passenger

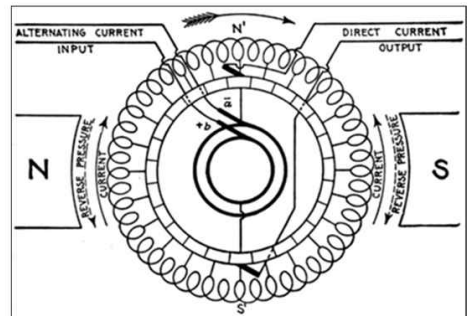
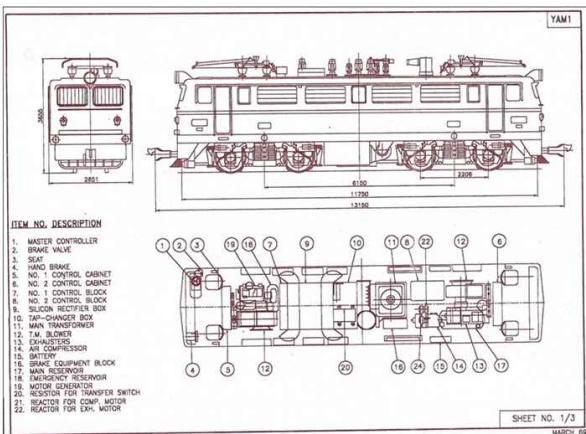
Photo courtesy: Rob Dickinson

which certainly looked oversized considering the frame of the loco. The traction was fed to primary winding of a Mitsubishi built 'Shell-Sub' transformer of 1690 KVA rating. A shell transformer is a rectangular transformer with a single core and two windings, i.e., the primary and secondary ones.

Both the windings can be arranged on a single limb. These transformers have great mechanical stability and compactness but needs to be force cooled. The low-tension or LT side of the transformer has 25 taps to control the desired power and speed of the loco. Taps are the mechanical



notches on the secondary winding of the transformer which adjusts the number of turns in the output side, thus changing the turns ratio, hence controlling the output voltage of the transformer. The output of the transformer then gets transferred to the rectifier stage. The main function of this rectifier stage is to convert the AC output of the secondary winding to a stable DC traction to be fed into the traction motors and also for the auxiliaries. The rectifier stage mainly consisted of four excitron mercury arc rectifiers manufactured by Secheron. An excitron rectifier is a controlled mercury-arc rectifier belonging to the group of early electrical machineries before the advent of



semiconductors. It is a cold cathode gas-filled tube, i.e., mercury vapour filled tube, where the cathode is made up of pool of mercury and anode is a carbon one. The excitron rectifier needs the existence of an excitation anode to maintain an arc discharge during the half-cycle when the valve is not conducting. Here, only the mercury emits electrons from an emission spot in the pool and reaches the anode. Thus, current flows in single direction from the anode to the cathode, rectifying the AC to DC. The mercury arc in the valve is largely controlled by the temperature. Due to the self-restoring nature of liquid mercury, it is very rugged and long-lasting. These rectifiers were rated to handle as high as 510A and 1250V.

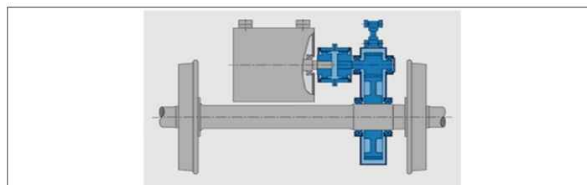
The auxiliary electrical equipments in the locomotive like the blower, compressors and exhausters needed three-phase Alternating Current to work. For this purpose, there was an Arno rotary converter in the locomotive. An Arno converter is basically a squirrel cage three phase induction motor devoid of any mechanical loads on its shafts with an extra winding on its stator to generate the phase of the 3-phase output voltage. In an induction motor, the rotating field in the stator induces a field in the squirrel cage rotor at "slip" speed less than the stator field. The speed at which the induction motor work is known as the "slip" speed which is actually the difference between the flux speed and the actual rotor speed. This rotor field is utilized to generate three phase power with the help of the extra winding in the stator.

YAM1s were equipped with both vacuum brake and air brake – both generated by Oerlikon supplied compressors and exhausters while the entire rake was vacuum brake dependent only.

The traction motors, the motive power behind the locomotive was a conventional DC motor supplied by ASEA/Mitsubishi/Siemens. The two DC-motors were permanently coupled in parallel combination. The two-motors were bogie-mounted fully-suspended traction motors.

21912 at CLW Loco Park.

Photo courtesy: Somsuhra Das



Nose Suspended Drive Where Traction Motor is Fully Suspended in Bogie Frame

Fully-suspended traction motor arrangement is the scenario where the traction motors are hung directly from bogie or underframe, instead of directly mounting on the axles. This phenomenon not only reduces wear and tear on the tracks but also provides better protection to traction motors with reduction in probability of shocks. The traction motors are force-air ventilated, each weighing about 5600 Kg and each one delivering 1080KW output. The net horsepower output of this small locomotive was about 1630, suggesting not too powerful for dragging heavy loads. Though these Japanese locomotives were capable of seamlessly hauling prestigious coaching trains at a top speed of 80 kmph. Sometimes, they were also spotted hauling freight rakes of length as long as 50 wagons, courtesy its maximum starting tractive effort of 19.5 tonnes and continuous TE of 12.5 tonnes at the wheels.

As all good things to come to an end, the heydays of the metre-gauge pure AC locomotives were almost over by end of the 20th century. Their future met a dead end by dint of the combination of 3 factors – the advent of Project Unigauge, the unavailability of spare parts and subsequent aging of the locomotives. The sheer romance with the vibration on the metre gauge joints along with the twin tone honk of the YAM1s was staring at the prospect of being labelled as endangered species. The small locomotives with the growling MG1420 traction motors were counting their last days of active service. And finally, the day arrived on the 1st of July, 2004 when YAM1 (#21916) was assigned mainline duty for one last time for towing the Sethu Express. That day marked the end of the legacy of the MG electric locomotives forever in India and also sounded death knell for the MG trunk route of Chennai. The day saw rail enthusiasts from all over the country to assemble and bid farewell to these legendary machines. The day earlier, i.e., 30.06.2004 witnessed the final arrival of a YAM1 (#21920) heading a passenger service in the form of the iconic Cholan Express at Tambaram. A few months later, most of them were spotted at Tambaram loco shed and scrapyards waiting for the electric torch's arc to rip the metals off. It was indeed a heart wrenching sight for any rail lover to watch the amazing locomotives being turned into layers of worn-out metal. Two YAM1s were fortunately saved from the torch and were preserved. #21912 was plinthed at the Loco Park of the Chittaranjan Locomotive Works along with few other retired locomotives keeping company. The other one, #21909, was kept for display at the Chennai Regional Railway Museum as a relic of the rich history and lost glory of the metre gauge electrics in India.

Acknowledgement: Data book of Electric Locomotives & IRFCA



Calcutta - Melbourne TramJatra

3RD CONTACT : 2000 MOOMBA TRAM

Roberto De'Andrea

In the year 2000, the Melbourne Calcutta Tramways Friendship - Tramjatra crew were invited to decorate a tram as a part of the Moomba Trams on Parade Festival. This was the 4th time we publicly celebrated the rare surviving tramways of Melbourne and Kolkata and our unique friendship when we decorated the W Class Tram 1018 for the festival. Moomba is a large community festival which captures the hearts and imaginations of Melburnians. This festival for the people is truly a celebration of the city and the diverse communities that breathe life and character into our public spaces giving strength to our cultural fabric. This time around, rather than creating own tram festival, we joined this high-profile community arts festival with its street theatre, performance art and cutting-edge local and international acts.



Melbourne Moomba Trams on Parade

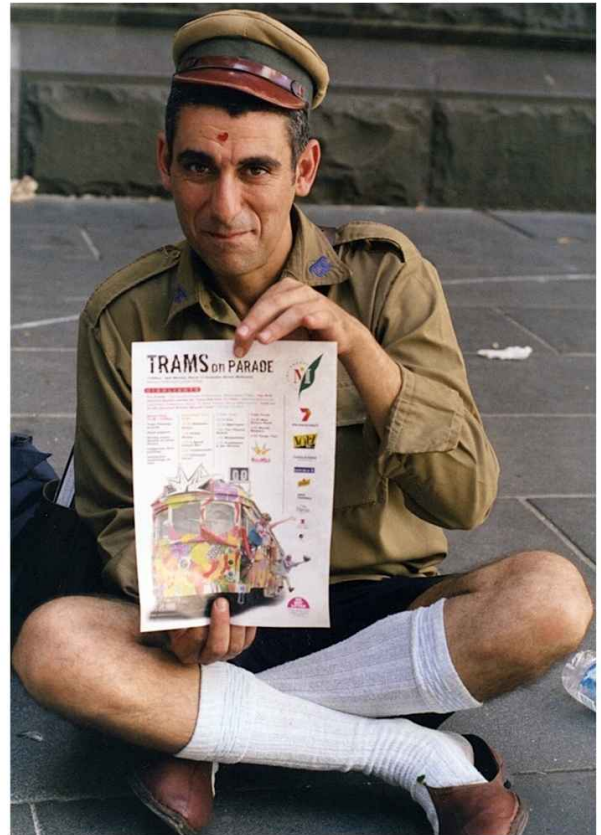
From 2000 to 2002, Melbourne's iconic trams became the key feature of Moomba. Trams on Parade gave Melburnians something meaningful with which they could identify themselves and their culture. The trams were not sponsored by retailers and nor did they advertise them; they were the result of artists working with local communities to celebrate the people and culture of Melbourne of which trams are central. 14 trams made up the Moomba Trams on Parade including our Melbourne Calcutta Tramjatra "Love Tram". The trams took months of work to conceptualize and complete. The Preston Tram Workshops became a creative hub for the teams of artists and community groups that drilled, cut, painted and decorated a whole fleet of 'floats'.

2000 Melbourne Calcutta Love Tram Before Painting



After parading the trams in front of a huge audience, the Melbourne Calcutta Love Tram terminated in Swanston Street, where the city's major thoroughfare was transformed into a carnivale-style street party. Melbourne Town Hall, Flinders Street Station and the trams themselves became stages for a program of world music and dance performances.

2000 Melbourne Moomba Trams on Parade flyer - CTC Conductor



MELBOURNE CALCUTTA "TRAMJATRA LOVE TRAM" THEME

There were 4 components to the Trams on Parade Love Tram. The exterior of the tram was designed and managed by Amanda Diamond. W Class tram 1018 was painted white at the Preston Tram Workshops. The tram was transformed into a blank canvas as we wanted Moomba patrons to paint the it. So, when Love Tram settled into its street party position, Amanda supplied the brushes and paints & the people painted the exterior of our Love Tram.



2000 Melbourne Moomba Trams On Parade Love Tram Painters

The 2nd component was the decoration of the interiors of the Melbourne Calcutta Love Tram. Bengali language decorations and a Melbourne Calcutta photo exhibition got featured.

Moomba Tram Passengers and Decorations



2000 Melbourne Moomba Love Tram Decors

The 3rd component was a mob of Tramjatra "performing" Tram Conductors dressed in a mix of tram uniforms from Calcutta and Melbourne. With specially designed friendship tram tickets, Tramjatra conductors entertained Moomba patrons before and during the Trams on Parade Festival. We acted as tour guides and spoke at length to many a Moomba patron about the rare surviving tramways of Melbourne and Calcutta and explored our cultural similarities and differences. The colourful tram exhibition had pictures of the decorated and commuter trams, trammies and passengers.





2000 Melbourne Moomba Love Trams Connies

And finally the 4th component was a Tramjatra Conductor Durga artwork designed by Mark Mistic where Moomba patrons could stick their head inside the 'face position' and be photographed.



2000 Melbourne Moomba Tram Painters

The Moomba 2000, 'Trams on Parade', Melbourne Calcutta Love Tram kept Tramjatra in the public eye and we were very popular. Together with the 1996 and 97 Melbourne Calcutta Friendship festivals staged in both cities, this led to a huge 2001 Tramjatra.

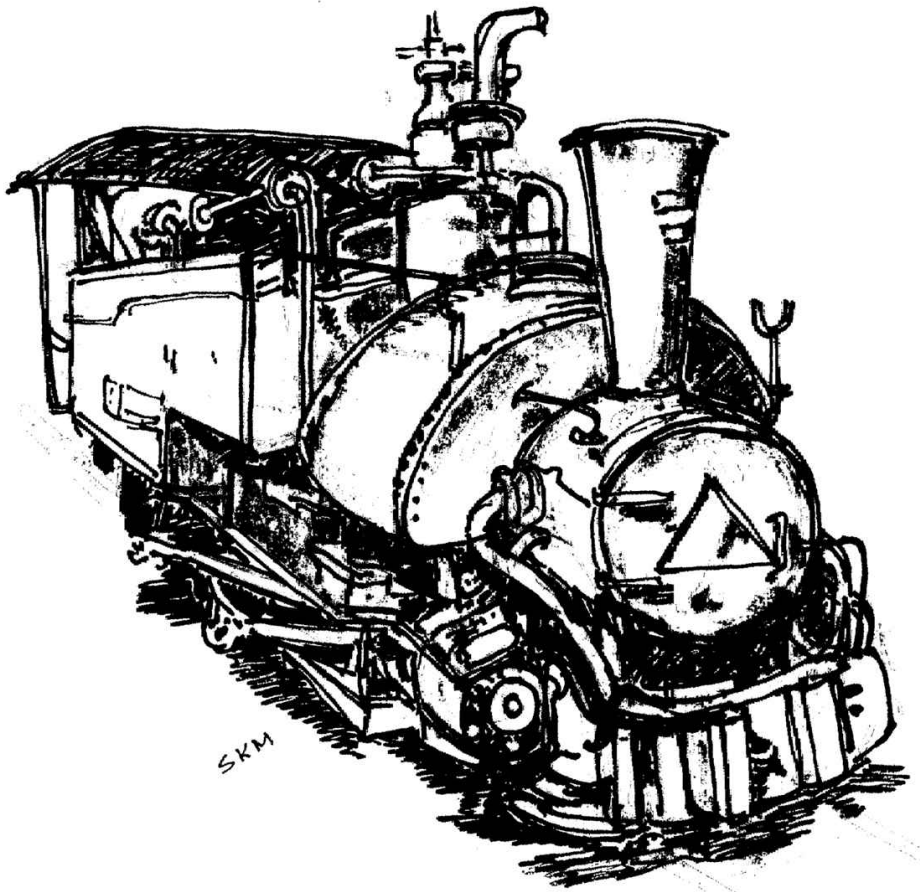
In the next issue we will see the famous Aussie Cricket Tour to India in 2001, the historic test match at the majestic Eden Gardens along with some beautifully decorated Tramjatra Trams trudging through the scenic Maidan adjacent to the stadium. Signing off till then...

2000 Melbourne Moomba Trams @ Preston Workshop Trammies



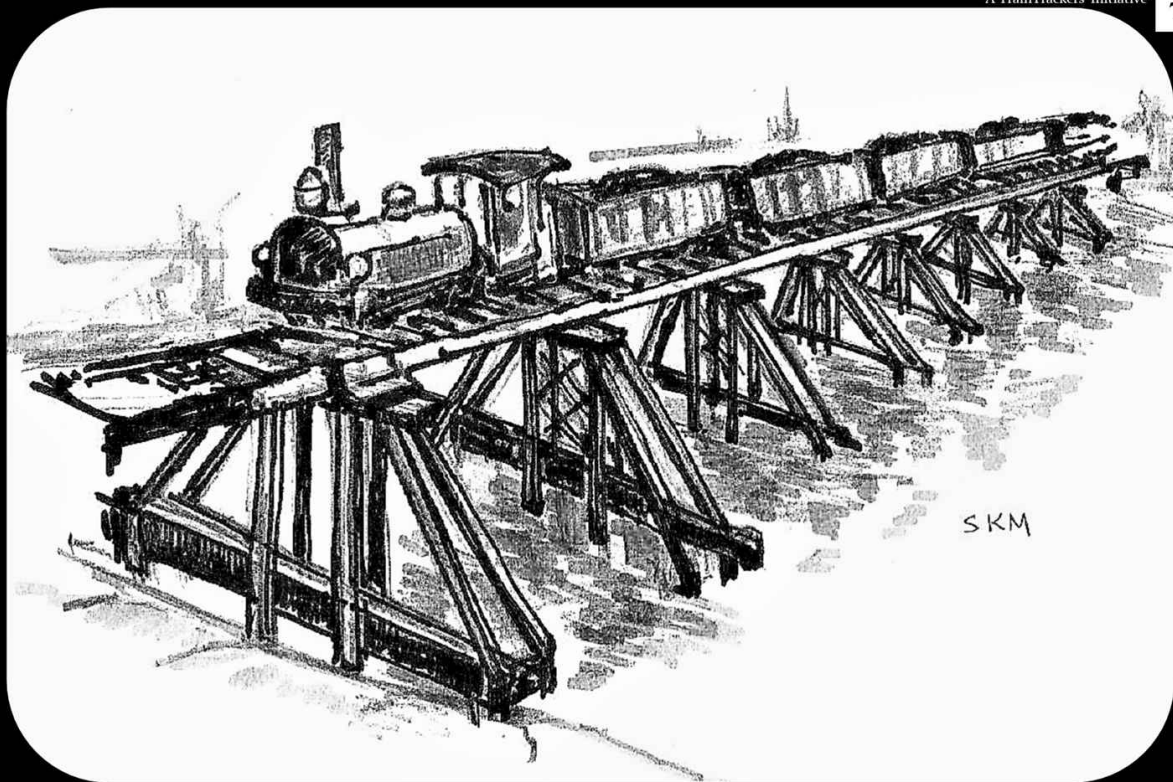
2000 Melbourne Moomba Trams on Parade, Connies & Cow Puppet





Railway Sketches

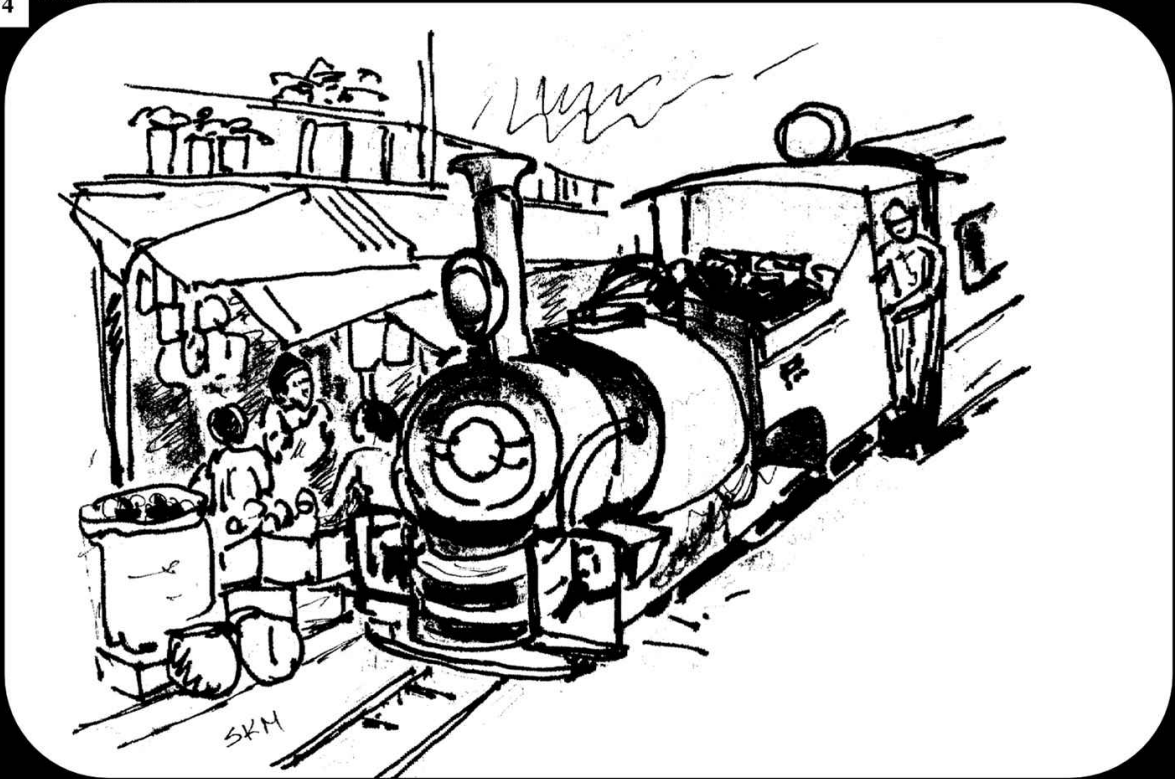
Sudakshina Kundu Mookerjee



Overloaded train ▼

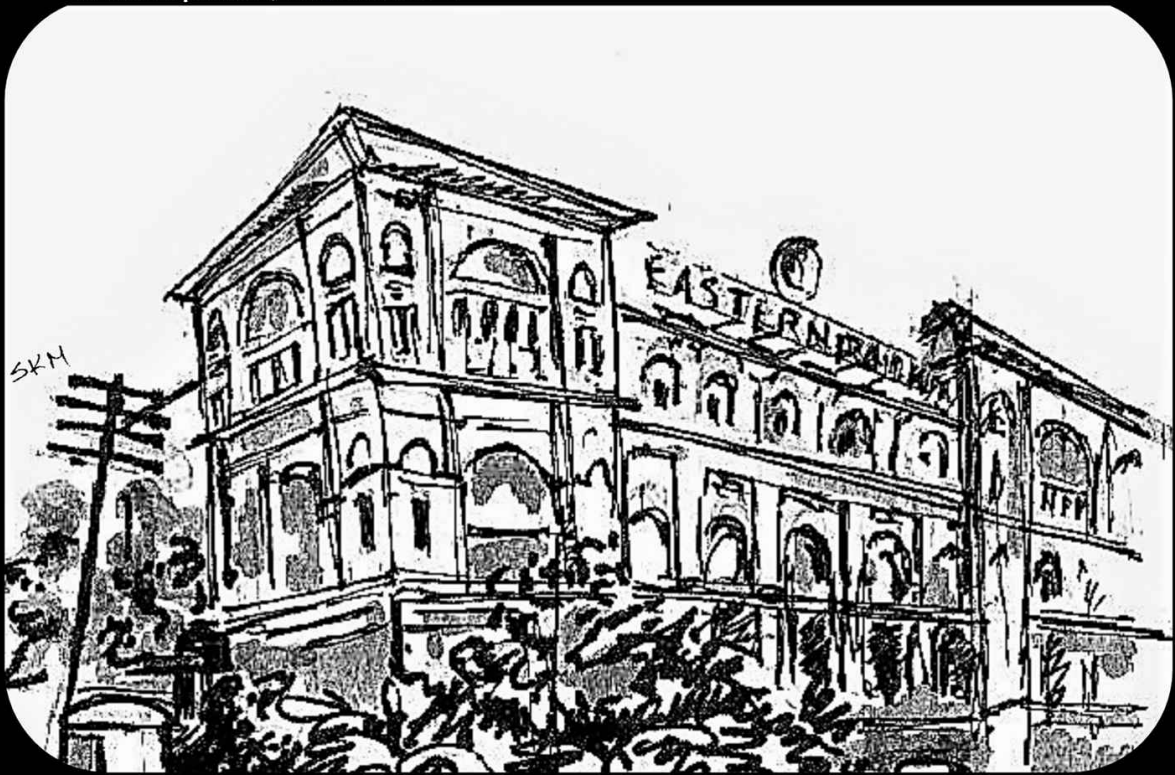
▲ NFR Dehing Bridge, Margherita





ER Headquarters, Fairlie Place ▼

▲ DHR Toy Train



PK Banerjee the railwayman

“...what amazed me was his profound knowledge of the subject which enabled him to successfully settle tricky issues...”

a tribute by
Sanjoy Mukherjee

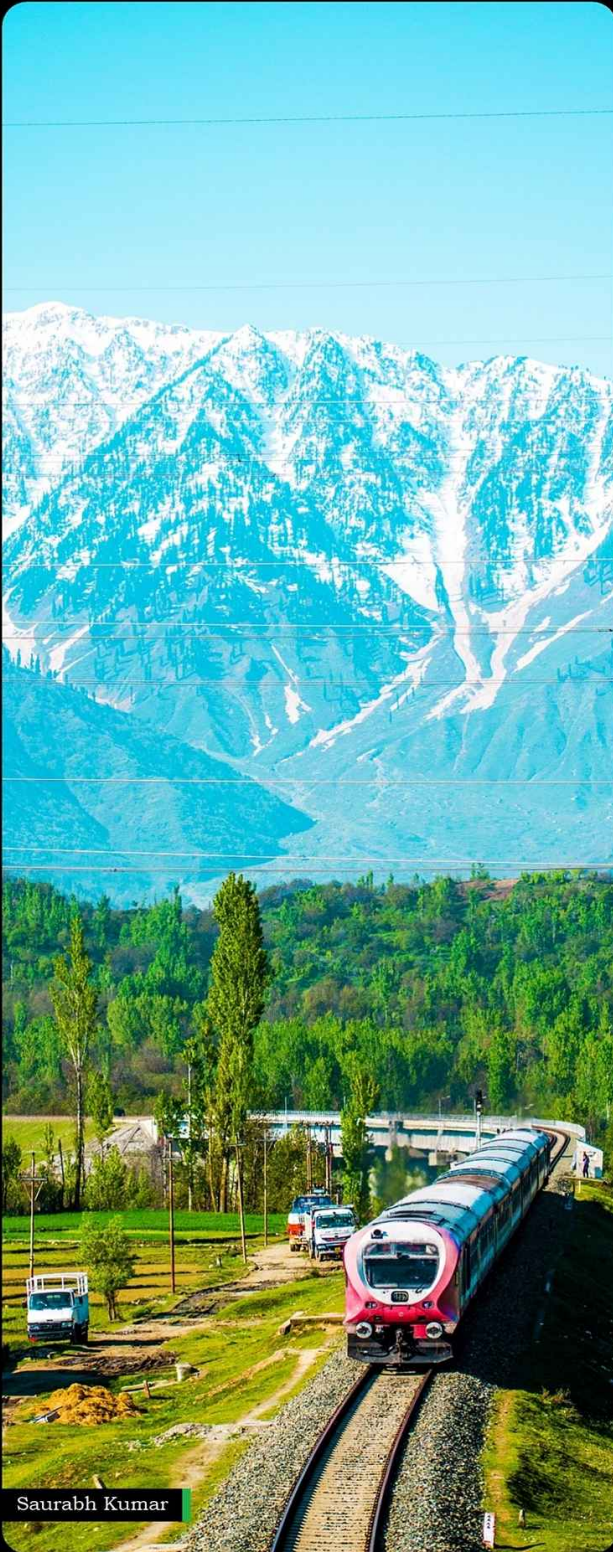
Railways have always acted as an employer of the greatest of athletes of the nation from various fields of sports. Pradip Kumar Banerjee or PK Banerjee is one such name which still shines bright in the sky of achievers. His skills of the game may have earned him the Arjuna Award, the Padma Shri, the Indian Footballer of the 20th century by IFFHS along with the highest honour by FIFA – the FIFA Order of Merit but a very few are aware of his prudence in office assignments.

In March 2020, with the sad demise of PK Banerjee, the country lost one of its greatest sons. Many of us know about his soccer skills, yet most of us might not know that he was an equally ardent and proficient railwayman.

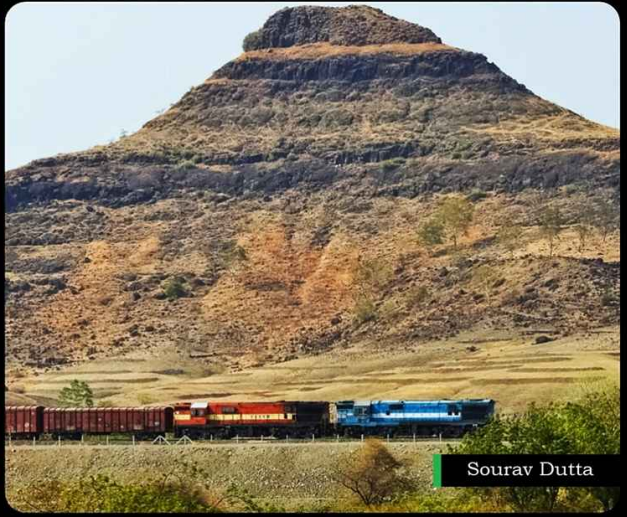
During the difficult days of the 1980's, 'Pradipda' was posted as the Senior Personnel Officer, looking after staff welfare at the Eastern Railway's Headquarters at Fairlie Place. I, as a young railway officer, and many others like me, would often seek his wise counsel and guidance whenever we got stuck with intricate staff recruitment and promotion rules. What amazed me was his profound knowledge of the subject which enabled him to successfully settle tricky issues, more than once, through amicable resolution, thereby avoiding litigation or labour disputes. No doubt, his magnetic personality helped to mollify the toughest adversary.

Although he was an extremely busy national soccer coach in those days, I have never found him shying away from his official duties. He was always available for us whenever we required his help. In this field too he was a great coach!





Saurabh Kumar



Sourav Dutta



Ayan Dutta



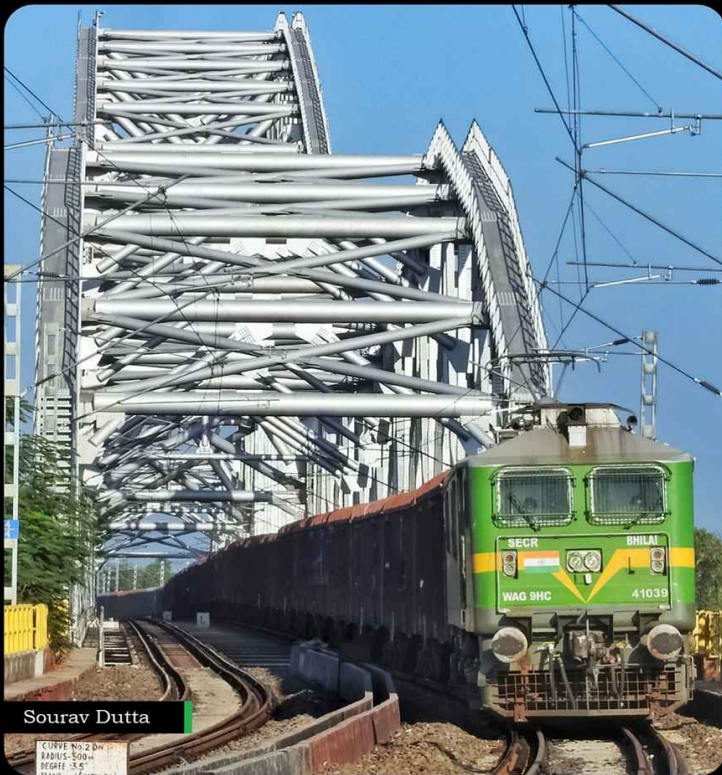
K Gautham Karthik



Sourav Dutta



Aishik Bhattacharjee

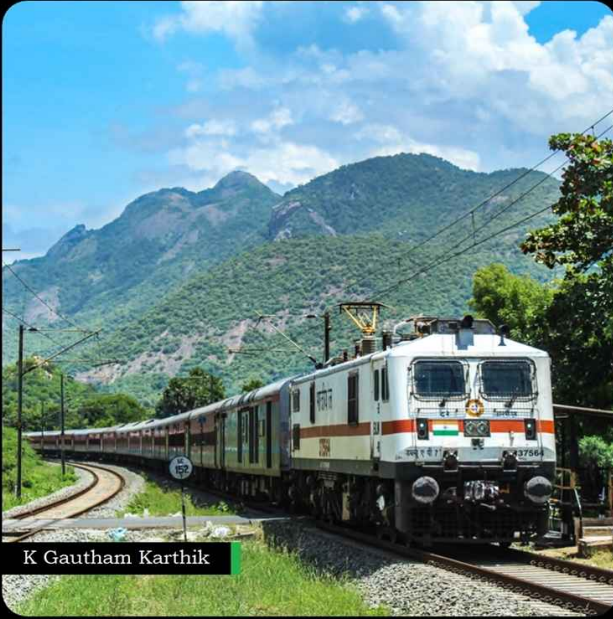


Sourav Dutta

CURVE No. 2 Dm
RADIUS-500m
DEGREE 3.5



Raktim Bhattacharjee



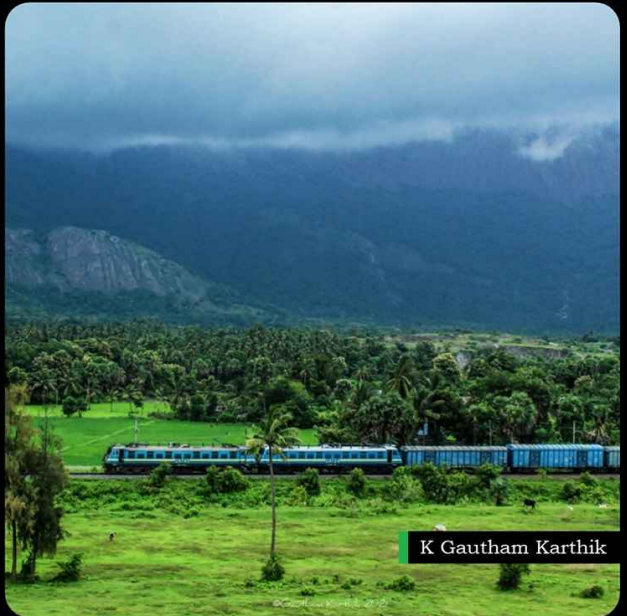
K Gautham Karthik



Aniket Das



Ayan Dutta



K Gautham Karthik



Saurabh Kumar



Anish Banerjee



Ayan Dutta



Anish Banerjee



Aniket Das



Saurabh Kumar



Albin Manjilil



Sourav Dutta

NEWS STATION

India Delivers Oxygen to Bangladesh on Rails



Delivering Life

Indian Railways had grabbed the headlines over the last months for relentless run of Oxygen Expresses across the nation for meeting the requirements of medical oxygen in different parts of the country during the second wave of pandemic. Now this noble gesture got extended to one of its neighbours as well. India provided Bangladesh with regular medical oxygen supply on the rails across the borders during the ongoing worldwide crisis. In July this year, when the covid situation in our country improved, our neighbour reeled under the grim shadow of Covid-19. Oxygen supply seemed inadequate in Bangladesh and India stood by her side when it needed the most. Medical Oxygen tankers loaded from PSTA siding of Jamshedpur (Public Siding at Tatanagar) or Rourkela on flatbed rakes were sent to Bangladesh via Benapole-Petrapole cross-border railway link. These cross-border Oxygen Expresses got utmost priority en route and were treated as emergency services. These trains mark the fulfilment of promise made by India to stand by its neighbour and Indian Railways played a pivotal role in achieving the goal on time.

New Breed of Shunters in Sealdah Division : WAS4



Battery Operated Loco

Three overaged WAM4 locomotives from Asansol ELS were given a fresh lease of lives as they were converted into shunter locomotives. 21380, 21385 and 21387 were converted to WAS4 class locomotives by Asansol ELS as their service changed from mixed to shunting. These locomotives have been the torch-bearers of electric traction in the history of Indian Railways and will continue to serve in this new avatar for a few more years. Kudos to Asansol ELS for refurbishing their WAM4s which had passed their codal lives instead to abandoning them for scarp.

Trial run of East-West Metro upto Sealdah



East-West Metro

On 1st July 2021, Metro Railways reached Sealdah station for the first time. One of the key stations of the East-West Metro, Sealdah is expected to serve millions – transporting commuters from Sealdah railway station to the IT hub and the Howrah railway station. As of now, only the extension from Phoolbagan to Sealdah stretch get commissioned. As per sources, trials to be conducted on a regular basis from now for the next few months. CRS sanction will only be requested after total completion of work after which the 2.2km stretch will be thrown open. If Metro Railways claim is to be believed then Sealdah Metro become operational from the beginning of 2022 itself.

Rubber Express Rolls for the First Time



Rubber Express

On 10th July 2021, a consignment carrying 1.5 lakh rubber saplings was flagged off from Thiruvalla station of Southern Railways for Guwahati of Northeast Frontier Railways, fondly named as the 'Bharathappuzha-Bramhaputra Rubber Express'. The train was flagged off by Dr. K.N. Raghavan, Executive Director, Rubber Board and R. Mukund, DRM, TVC division. The train is a part of Credit Linked Rubber Plantation Development Plan (CLRPDP) supported by Automotive Tyre Manufacturing Association (ATMA) and NABARD. It aims to boost the natural rubber production in our country to reduce the difference between demand and supply of natural rubber. The rubber root-trainer saplings are sent to the NE states of Assam, Arunachal Pradesh, Meghalaya, Mizoram, Nagaland, Manipur and Tripura in specially designed cartons. A total 5 lakh saplings is intended to be sent throughout 2021-22 to 2025-26.

NEWS STATION

BLW Dedicates 100th Locomotive of the Fiscal to Corona Warriors



BLW, Varanasi

BLW recently rolled out the 100th locomotive of the 2021-22 fiscal. Even during the pandemic when the productions took a hit, BLW still marched ahead to roll out electric locomotives for the nation at a decent pace. BLW dedicated this special locomotive of WAG9HC class to the covid frontline warriors and healthcare workers of our country. This is an ode to the immense dedication and hard work put in by the doctors, nurses and medical staff to save lives of millions while putting their lives at high risk. The 100th locomotive is numbered 41191 and is allotted to ELS Asansol under the jurisdiction of Eastern Railway.

Tejas Rakes Inaugurated for Mumbai Rajdhani



Tejas Rakes For Rajdhani

On 19th July, the prestigious Mumbai Rajdhani Express started to run with the modern and upgraded Tejas coaches thereby renaming the train as Mumbai Tejas Rajdhani Express. The Tejas coaches, rolled out from the Modern Coach Factory, Raebareli is aimed at redefining passenger comfort and facilities. The 'smart' coaches have Passenger Information and Coach Computing Unit (PICCU) which has GSM connectivity integrated with several sensor networks in the coach connected to the remote server at the control room. Hence the CCTV, Fire Alarm, Smoke Sensor and Water Level Sensor can be deciphered from the control room. Other smart features include Automatic Doors, Individual Reading Lights and Mobile Charging Points, Odour Sensors, Panic Buttons etc. With this introduction of Tejas rake, the rake sharing arrangement between Mumbai and August Kranti Rajdhani has been broken. Next in line, is the Patna Rajdhani and the Howrah Rajdhani which will also run with the Tejas rakes.

Ro-Ro Service Starts in Western Dedicated Freight Corridor



WDFC Ro-Ro

Trial runs of Roll On-Roll Off services kicks off in Western Dedicated Freight Corridor between New Rewari to New Palanpur section. These Ro-Ro services, if operated in the 630 Km stretch will reduce costs, emissions in a big way where cargo-loaded trucks are being rolled on flatbed rakes at the originating station and rolled off at the destination. On 12th August, the first trial was performed where Director of DFCCIL and other senior officials were present along with the representatives of the operator SSK Devcon.

IR Prepares for Hydrogen Fuel-powered Trains



Hydrogen Fuel The Future

Indian Railways takes a huge leap towards greener energy as it prepares to invite bids for hydrogen fuel cell-based trains. The trains will run on hydrogen after electrolysis water with the help of solar energy. It will be first implemented on DEMU rakes running on 89-km Jind-Sonapat section of Northern Railway. The tender will be invited to retrofit hydrogen fuel cell-based technology on 2 DEMUs and then on two narrow gauge diesel locomotives. An approximate fuel savings amounting to 2.3 crores INR annually in each rake is expected along with huge reduction in carbon footprint. The tender will be floated on 21st September and remain open till 5th October this year.

NEWS STATION

Jagriti : Sealdah's New Ticket Inspection Car Inaugurated



On the eve of auspicious day of India's 75th Independence Day, Sealdah division inaugurated its new hybrid dual traction ticket inspection cum breakdown car. It has been named as 'Jagriti' meaning awakening. It is a three car rake consisting of two motor coaches 11300 and 11305 and a trailer coach 11760 in between. It can run both on 25KV 50Hz AC OHE traction as well as on the batteries, in case OHE fails. The rake based at Narkeldanga TRS, is beautified with tricolor vinyls outside and decorated with portraits and quotes of eminent personalities of the country inside. The train will travel in various parts of the Sealdah division as a ticket checking car replacing its predecessor Chetna. It will also work as breakdown van in case of any mishap.

Eastern Railway runs Krishak Specials for Farmers



In the post lockdown period, when limited staff specials are running with limited access to daily tickets, the situation was getting grim for the farmers who want their produce to reach the mandis and cities. Eastern Railway came to their rescue and treaded a new path of innovative approach in the name of "Krishak Special" – exclusively for farmers and other vendors. This trains aims to provide them with better access to ship their commodities to markets. Reserving the whole train for farmers with limited stops depending on demand was an exemplary step by ER. The trains are mainly running in the Gede and Shantipur sections where farmers need more access to railways for cheap transportation cost. Thus, ER once again proved to be a saviour!

The Last Chinese Rake Arrives for Nagpur Metro



Nagpur Metro, the 13th city of India to operate a rapid transit system received its last rake from Chinese firm CRRC Dalian in August 2021. The 23rd rake is a part of contract signed between Maha Metro and CRRC Dalian in October 2016 for 23 3-coach rakes. These rakes are ultramodern ones with CBTC signalling system and runs on 25KV OHE system. Maha Metro operates metro in Nagpur and will do so in Pune as well in the near future. Presently, Nagpur has two active lines – Orange line (North to South) and Aqua line (East to West).

Dankuni ELAAU Rolls Out its 200th Locomotive



The Electric Locomotive Assembly and Ancillary Unit of Dankuni, an ancillary and subsidiary unit of Chittaranjan Loco Works assembled its 200th locomotive in this August. The locomotive of class WAG9HC bearing Road Number 32936 is allotted to Kanpur ELS. The ELAAU Dankuni had rolled out its first locomotive on 8th March 2016. Shri Satish Kashyap, GM CLW was present on this pompous occasion.

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Iron Ore The Railway Story



GK Mohanty

This well-researched book opens an unprecedented window upon the evolution of iron ore mining in the country and its role in the development of Indian Railways for over a century which complemented each other and gave a boost to the industrial development in modern India. The book combines chronological elaborations of fact, information and experience, together with the guiding principles of governance mechanisms which were put in place, as mineral extraction and rail transportation progressed in India. This is an ideal reference book for professionals, researchers, executives and policy makers interested in the field. In conclusion, the book indicates the probable direction in which the policy of transportation of mineral ores is likely to evolve in future.

Available at **amazon**

RAIL CANVAZ

Meter-gauge Treasure Troves

Part - II

The journey of revisiting our famed Meter Gauge network continues through fond remembrances from the century gone by and travelling on whatever little fragments that are left with us. We will strike up another issue based on those mini marvels which transported people from the different corners like never before. Join us for some more Meter Gauge action in January 2022.....