



Traffic opened to the public on 9 November 1903. But exceptionally heavy snowfall damaged the track on 26 December of the same year, causing a large number of landslides. Difficult operating conditions were thus added to the high cost of initial establishment, and despite the high fares the Railway experienced serious financial difficulties. Its strategic importance led the government to acquire the line on 1st January 1905.

The first steam locomotives were 4-wheeled engines (1900), and these were followed by 6-wheeled (1902) and finally 10-wheeled engines. They were made by Stewart & Co of Glasgow. The locomotive models were derived from those used on the Darjeeling Himalayan Railway. This rolling stock remained in service until 1953 with no major modifications.

The locomotives were then modified by the German company Henschel: increase in water and coal capacities, modification of the grate, modification of the valve gear. The modified steam locomotives began to be scrapped in the 1970s, and the last ones remained in service until 1980. They were replaced by diesel engines from 1952 onwards. One of the steam locomotives initially delivered in 1905 (KC 520) has been restored by KSR, in 2001, in order to re-establish the tradition of steam traction in the mountains, which today has been almost completely forgotten.

The carriages were built by the Railway itself from 1903 onwards. The first were very simple 4-wheeled carriages, light and short (17 feet). In 1910 new carriages were introduced using steel under-frames and bogies, thereby reducing the number of derailments. The KSR initially had 4 travel classes. Furthermore, extremely luxurious saloon cars could be rented. The second car of this type, built in 1912 (RA-2), has been conserved and restored. Subsequent passenger carriages were made lighter and protected against the effects of corrosion by the use of aluminium.

In 1911, petrol-driven Rail Motor Cars were introduced on the line to carry mail. They were made by the Drewery Car Co. Ltd. in London, and were equipped with White & Poppe 17 HP engines. Car no. 12 of this type is preserved in the National Rail Museum, New Delhi. Diesel-electric motor cars were introduced from 1932, with large windows to give panoramic views of the magnificent Himalayan mountain scenery. One of these cars (no. 8) is known as the "Queen of Shivalik". With this type of car, the total journey time was reduced to 4½ hours, which is still the same today. Generally speaking, the KSR has always attempted to improve its rolling stock, both in terms of technical performance and passenger comfort.

Source :  
Website - <http://whc.unesco.org/>



## Cultural Calendar

### September 2014

# 10

Wednesday 3.00 pm

**Film : Taare Zameen Par**  
**Directed by Aamir Khan**  
Hindi (Duration 3 hrs)  
Venue: ICC Auditorium



# 12

Friday 6.00 pm

**A Bharatha Natyam Duet**  
**by Ananya and**  
**Apoorva S. Rao from India**  
Venue: ICC Auditorium

# 15

Monday 4.00 pm

**Hindi Diwas**  
**A Variety programme**  
**by the Hindi students**  
**of the Indian Cultural Centre**  
Venue: ICC Auditorium



**Friday Matinee**  
**Pinjar**  
**Directed by**  
**Dr. Chandraprakash Dwivedi**  
Hindi (Duration 3 hrs)  
Venue: ICC Auditorium

# 19

Friday 3.00 pm

**"Biryani" Cookery Demonstration**  
**by Shefali Nagar Vasnaji**  
**of Meethi Mirchi**  
Venue: ICC

# 26

Friday 10.00 am

Programmes subject to change  
Admission to all programmes are on first come first served basis  
**All are cordially invited**

UNICE ARTS, 2330195



# Sanskarikā

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Photograph by Rajesh Dhar





## Cultural Tapestry

### Mountain Railways of India



The development of railways in the 19th century had a profound influence on social and economic developments in many parts of the world. The two Mountain Railways of India on the World Heritage List are outstanding examples of the interchange of values on developments in technology, and the impact of innovative transportation system on the social and economic development of a multicultural region, which was to serve as a model for similar developments in many parts of the world.

The Darjeeling Himalayan Railway is intimately linked with the development of Darjeeling as the queen of hill stations and one of the main tea-growing areas in India, in the early 19th century. The densely wooded mountain spur on which Darjeeling now stands was formerly part of the Kingdom of Sikkim. It was adopted by the British East India Company as a rest and recovery station for its soldiers in 1835, when the area was leased from Sikkim and building of the hill station began, linked to the plains by road. In 1878 the Eastern Bengal Railway submitted a detailed proposal for a steam railway from Siliguri, already linked with Calcutta to Darjeeling. This received official approval and construction work began immediately, and by 1881 it had been completed. Since 1958 it has been

managed by the State-owned Northeast Frontier Railway.

The DHR consists of 88.48 km of 2 ft (0.610 m) gauge track that connects New Jalpaiguri with Darjeeling, passing through eleven stations between the two termini. One of these, Ghoom, is the second highest railway station in the world, at an altitude of 2258 m. Because it passes through a mountainous region, 73% of the total length of the line consists of curves, the sharpest of which is that between Sukna and Rongtong, where the track passes through 120°. There are six reverses and three loops on the line, the most famous of these being the Batasia Loop between Ghoom and Darjeeling. The steepest gradient is 1 in 18 (in zigzag reverses). The Toy Train, as it is affectionately known, affords breathtaking views of high waterfalls, green valleys that are often hidden by cloud, and at its end the splendid panorama of the snow-capped Kanchenjunga range. There are several distinct sections: the 10 km plains section between Siliguri and Sukna (partly urban and partly agricultural), the 11 km densely forested section from Sukna to beyond Rongtong, the 38 km largely deforested open hill section with its many tea gardens to Kurseong, and finally the 30 km alpine section to Darjeeling, dominated by stands of Himalayan pine and tea gardens.

The Nilgiri Mountain Railway consists of 45.88 km of a 1 m gauge single-track, partly rack-and-pinion railway that connects Mettupalaiyam to Udagamandalam in Tamil Nadu State. The railway can be divided into three sections:



Some 7 km, from Mettupalaiyam to Kallar (elevation 405 m), across the central plain of Tamil Nadu, with its betel-nut palm and other plantations. Maximum speed is 30 km/h called the Blue Mountain Express, the name of which was changed recently to the native Nilgiri Express.

The rack section of the line, from Kallar to Coonoor (elevation 1,712 m). There are 208 curves and 13 tunnels, and 27 viaducts. The Kallar Bridge over the River Bhawani, the Adderley Viaduct and the Buriar Bridge are examples of such composite bridges. Here, the railway climbs through almost uninhabited, tropical jungle.

A stretch of 18 km runs through a landscape with dominant eucalyptus and acacia forest. The railway continues to climb across the Nilgiris until it reaches the summit, just before the terminus of Udagamandalam at 2,203 m.

### Historical Description



Darjeeling was formerly part of the Kingdom of Sikkim. It was adopted by the British East India Company as a rest and recovery station for its soldiers in 1835, when the area was leased from Sikkim and building of the hill station began, linked to the plains by road. The region was annexed by the British Indian Empire in 1858. Calcutta had been linked by rail in 1878 to Siliguri, in the



foothills of the Himalaya. By this time the tea industry had become of great importance for the Darjeeling region, and the existing road transport system was inadequate to cope with the increased traffic. Franklin Prestage, Agent of the Eastern Bengal Railway, submitted a detailed proposal for a steam railway from Siliguri to Darjeeling. This received official approval and construction work began immediately. By 1881 it had been completed in three stages.

The privately owned Darjeeling Himalayan Railway (hereafter referred to as the DHR) was purchased by the Government of India in October 1948. Since 1958 it has been managed by the State-owned Northeast Frontier Railway. Protected by wild, jungle-covered escarpments and located at an elevation of roughly 2000 meters, the Nilgiris hills were isolated until the 19th century with their tribal inhabitants, the Todas. The name of the hills means Blue Mountains in Sanskrit and reflects the perspective of a person looking at them from below. British settlement in the hills began in 1820. By 1830 there was military commandant, and British families from Madras began building summerhouses, especially in Udagamandalam (Ootacamund). By 1870, the Madras government as a whole was moving there for the summer, in imitation of the annual migration of the viceroy's Government from Calcutta to Simla.

The history of NMR dates back to 1854 when proposals were first made by the British to build a railway up the hills. Work began on the Madras-Coimbatore line (5'6") in 1853, and the branch to Mettupalaiyam opened

in 1873. The problem was how to replace the tedious ascent by bullock-cart or pony to Coonoor. In 1873, the district engineer of the Nilgiris, J.L.L. Morant, proposed building a rack railway, but the first offers were declined. Sir Guildford Molesworth, the former engineer in chief of the Ceylon Government Railway, acting as consultant to the Government of India, advised a rack and adhesion line on the model of the Abt system built in the Harz Mountains in Germany. In 1882, M. Riggensbach, the Swiss inventor of Rigi rack railway, submitted a proposal for the construction of the railway line. This was accepted, and the Nilgiri Rigi Railway Company Ltd was formed in 1885. The work was inaugurated in 1891, and finally completed in 1908. Subsequently the railway was run by different companies, and was then incorporated into the Southern Railway in 1951. The British began to move into



this region of India in around 1820, and the first railway projects were particularly early, in the 1840s. However the broad gauges then used (1.67 m) were basically incompatible with any idea of providing rail transport to the hill regions.

The Shimla region took on considerable political importance as the Indian colonial government decided to take up summer residence there, because of the healthier climate linked to the altitude. The question of transport to the Himalayan foothills, the Delhi region and the Ganges plain then became crucial. The possibility of a rail link was mentioned as early as 1847. The opening of the Grand Hindostan and Tibet Route was however the first major advance



in this field. It was operational in this region in 1856.

The first engineering development work was carried out in 1884-85, to establish a steam traction "adhesion line" with a gradient not exceeding 30/1000 (1/33), using the narrow gauge principle. The project was submitted to the government but was not immediately taken up. Development work was revived by the arrival of the Delhi railway line at Kalka, in 1891. Other shorter layouts and other technical solutions were then considered by the engineers, such as the rack system. Finally a contract was signed between the government and the Ambala-Kalka Railway, for the construction and operation of an adhesion line with a gauge of 2 feet. The final general design project was presented and approved in 1899. It comprised the technical development work, the costing and the rolling stock. The Railway had to meet the cost of construction on its own; only the land was provided by the public authorities.

The work was begun, but at the request of the Army, the initial 2 foot gauge was increased to 2 feet 6 inches. The rails were in laminated steel, and were laid on wooden sleepers and ballast.

