THE TRANS-SIBERIAN AND TRANS-MONGOLIAN RAILWAYS
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The talk began by introducing the early experiences that led to the speaker's life-long interest in railways and rail travel. These included watching steam engines on the local line, family rail trips to nearby towns and cities, and the ubiquitous Christmas gift of a Railway Annual. Inevitably, tempting articles about the Trans-Siberian (Express) Railway would regularly appear, an exotic rail journey that seemed unattainable to a schoolboy in the 1960s. However, years later, the offer of a job in Hong Kong in 1983 presented the opportunity to travel to the Far East by rail. Along with a friend from university days, a railway enthusiast who worked for the then British Rail, ideas were discussed to travel from the UK to Hong Kong by train. Anglo-French negotiations to build a Channel Tunnel had recently been revived, a project that offered the tempting possibility of completing the whole journey by rail. Excavation of the Channel Tunnel began in 1988, an event that stimulated detailed research into the history and geography of the line, and the start of detailed planning for the journey. Following the official opening ceremony of the Channel Tunnel on 6 May 1994, bookings were made for a railway journey from Rotherham Central to Kowloon Station in Hong Kong, before transferring to the Kowloon-Canton Railway line for a train to the commuter station of Fo Tan. The talk then turned to a description of the history of European Russia and Siberia, and the political background to the building of the Trans-Siberian and Trans-Mongolian railways. Each section of the talk was illustrated with historical maps, archival photographs, engravings and posters, alongside photographs taken during the 4,876-mile journey.

Siberia is the region of Russia to the east of the Urals. This area is remote, largely forested (Taiga) and experiences severe winters. The ruling Romanov family had little early interest in developing this region, being content with the furs and gold that were brought into European Russia by intrepid trappers and miners, and utilising the area as a repository for their convicts and social undesirables. West-east land travel was largely confined to The Great Siberian Post Road (The Trakt) that extended across Siberia, with Post Houses located at 25-mile intervals and military forts (Ostrogs) at wider intervals. Otherwise, transport was primarily along the major south-north rivers, by boat in the warmer months, but by horse-drawn sledges during the 7 winter months. From 1857 onwards, successive foreign enticements to build a railway eastwards from Moscow were rejected, the Treasury capital being largely funnelled into the building and upkeep of numerous magnificent Romanov palaces across European Russia. A turning point was reached in 1860 when the port of Vladivostock was opened, built on land ceded to Russia by China. In 1886 Tsar Alexander III finally relented and issued an edict for surveys to be carried out for a 5,771-mile trans-continental railway. Construction officially began at Vladivostock in 1891 with a ceremony conducted by Nicholas II, the son of Tsar Alexander III. Work was carried out under six construction contracts, each completed and opened at different times. The complete line began service in 1901.

Physical and human challenges were immense. In addition to the vast distance and harsh climate were the threats of disease, attacks by wild animals and bandits, clearing of the dense Taiga forest, a shortage of manual labour and the necessity to import timber for sleepers, iron rails and even horses from Europe. The route crosses 16 major rivers and incorporates 3,901 bridges with combined spans totalling 62 miles. Lake Baikal, the largest freshwater body in the world, presented particular challenges to the engineers. Initially, the line was routed across the south-western end of the lake using two ice-breaking steamships, the SS Baikal and the SS Angara, built by Armstrong Whitworth of Newcastle and assembled on-site. The former carried 25 railcars and 1 locomotive, completing the crossing in 4 hours. A circum-Baikal loop-line was constructed between 1901–1904.

The original plan for six contracts (sections) included the construction of the Amur Line in the east. This section was aligned to the north of the course of the Amur River, connecting the Trans-Baikal Line (Mysovsk to Sretensk) to the Ussuri Line (Khabarovsk to Vladivostock). However, the engineering challenges presented by the mountainous terrain and the presence of permafrost, caused a shorter, more direct and less challenging alternative to be sought. Following the defeat of China in the First Sino-Japanese War of 1894–1895, China was obliged to pay a large indemnity to

Japan. In return for a secret loan to China, Russia was granted the right to cross Manchuria and construct the Trans-Manchurian Line directly to Vladivostock from Chita, avoiding the Amur and Ussuri sections. However, following further political tensions, the Amur Line was eventually built between 1907 and 1916, ensuring that Russia had a line that was entirely within Russian territory. In total, constructing this remarkable railway involved moving 100 million cubic metres of earth and laying 1 million tons of lines and over 12 million sleepers.

Unfortunately, because the Tsar had decreed that the line should be built as cheaply as possible, the first trains faced frequent derailments. Rails, which were made of inferior iron and were only half the U.S. 130 lb/yard weight, bent and buckled. Thin ballast resulted in the rails shifting and subsiding. Consequently, 100 million Roubles were allocated for a major rebuilding programme that was carried out between 1898–1916. One year later the Russian Civil War commenced. Lasting until 1922 the war saw lines, bridges and trains destroyed. Repairs were carried out between 1924 and 1925, after which normal services were resumed. In 1928 the first Five Year Plan was announced, which included a commitment to double-tracking the entire line.

One idiosyncratic legacy of the history was the adoption of 1520 mm 'broad' gauge, in contrast to the British and European 1435 mm 'Standard' Gauge and the French colonial 1-metre gauge. Thus, trains are now required to change the bogeys when entering or leaving Russian territories, to and from Europe and Inner Mongolia and China. This cumbersome procedure creates expensive delays for regular freight services. However, although the gauge difference has recently inconvenienced the rail transfer of strategic supplies from Europe to Ukraine during their war with Russia, it worked to the advantage of the Allies during World War II when Hitler launched Operation Barbarossa in 1941 by preventing transportation of war materials by rail to the Russian Front. A second inconvenient factor is that Russia spans seven Time Zones. To avoid complications for national railway timetabling, but to the considerable inconvenience of rail users in Eastern Russia, the Trans-Siberian Railway operates using Moscow Time. Thus, passengers in Vladivostock or Irkutsk have to set their watches to Moscow Time to meet a train.

The Trans-Mongolian Line was constructed much later, paralleling the Russian Tea Caravan Route from Beijing to Moscow, an unpaved track that was traversed by the first Peking to Paris motor rally in 1907. Construction of the line southwards from Ulan-Ude to Naushki was completed in 1937, and by 1939 a paved road had reached Ulaan Bator, the capital of Inner Mongolia. World War II halted further construction, which resumed in 1949, the line crossing the Gobi Desert to reach the Chinese border at Erenhot by 1956. Within China the line climbs steeply to cross the Great Wall of China at Chinglungchiao before sweeping down to the plains and the terminus at Beijing. The line from Moscow to Beijing covers a rail distance of 4,876 miles, takes 6-days, and crosses 6 Time Zones. When the speaker travelled on the route in 1995, the journey was completed in 139 hours and 43 minutes, arriving only 4 minutes late, a feat of timekeeping that railways in Britain would be satisfied with on their far shorter routes. Significantly, with an average speed of only 34.89 miles an hour, the service does not warrant the popular title of Trans-Siberian Express, an observation that does not in any way detract from a remarkable engineering, logistical and timetabling achievement.

The talk concluded with the words of Fitzroy Maclean (the British Army Officer, writer and diplomat who, it is widely speculated, was one of Ian Fleming's inspirations for James Bond) from his book 'To the Back of Beyond' - "*You can cross Siberia by jet in a few hours, where a train takes as many days … but it is not at all the same thing*".

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