History of the Railroad

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In the second half of the 19th century, the more advanced industrial states engaged in a worldwide contest for strategic advantage, economic fortune and imperial expansion. The competition took the form of continental conquest. Across Africa, Asia and the Americas, expeditions set off to explore hidden interiors, exploit material riches and tame 'uncivilised' natives. As industrial empires arose, railways became a means to, as well as a symbol of, great power and status. The number of miles of laid track and the production of more-powerful locomotives became indicators of industrial might, while the exquisite designs of railway stations and great halls became expressions of imperial pomp.

Russia's ambitions turned eastward towards the immense Siberian hinterland and distant Pacific coastline. Russia sought to consolidate existing holdings and to extend her influence in the region. At stake was Russia's claim over the still undeveloped and even undiscovered natural wealth of inner Eurasia. But these ambitions were checked by the Russian state's limited reach across these far-flung eastern territories. Until this time, the distance between St Petersburg and the Pacific was measured in an arduous overland trek or a hazardous sea voyage. The solution was found in the construction of the world's longest railroad, the Great Siberian Railway.

To the Great Ocean by Harmon Tupper is a lively take on the history of building the Trans-Siberian Railway. It's out of print, so look for it in libraries or order it from online booksellers.

AGE OF INDUSTRIAL EMPIRE

Russia was a latecomer to the industrial revolution. Russian society had long been dominated by a bloated autocratic state with close ties to an obsolete, land-owning aristocracy. With industrial entrepreneurs in short supply, the state was compelled to take the initiative in economic innovation, often by granting special concessions to foreign developers.

By the mid-19th century, Russia was slipping from the ranks of Europe's great powers. In 1857, Tsar Alexander II issued a Railway Decree, by which the state determined to reinvigorate the economy's preindustrial infrastructure with modern railway routes. Between 1860 and 1890, Russia constructed more kilometres of track than any other country except the USA. Railroads connected the central industrial region to the raw materials of the Urals and the agricultural products of the Black Earth region. Moscow became the hub of Russia's rail system, the terminus of nine different lines. This spurt of construction was mostly confined to European Russia. Fear of British encroachment from the Indian subcontinent prompted a Trans-Caspian line, which penetrated deep into Central Asia in the 1880s. Siberia, however, continued to remain a distant and undeveloped land.

In the 1840s, a geological expedition had discovered that the Chinese had left the Amur River region unsettled and unfortified. Shortly thereafter, the tsar appointed the ambitious and able Nikolai Muravyov as the governor general to Eastern Siberia. But unlike his predecessors,

For general histories of Russia, China and Mongolia flick through the following: Nicholas Riasanovsky's *A History of Russia,* Stephen Haw's *A Traveller's History of China* and Charles Bawden's *The Modern History of Mongolia*.

TIMELINE

1833 Russia's first steam locomotive invented by EA and ME Cherepanov

1836 Russia's first passenger railway opens from St Petersburg to Tsarskoe Selo

RUSSIA'S EARLIEST RAILS

In 1833 EA Cherepanov and his son ME Cherepanov invented Russia's first steam railway locomotive at Nizhny Tagil in the Urals (there's a model of it in Yekaterinburg, opposite the railway station – see p157). The locomotive and first Russian rail line, just 2km long, were built to support the Urals' mining industry, although the Cherepanovs also sent one of their engines to Tsar Nicholas I in St Petersburg.

Here, in 1836, Russia's first public railway opened. Built by Austrian engineer Franz Anton von Gerstner and operating with British-built locomotives, it was a 24km line connecting the imperial capital to the Tsar's summer residence in Tsarskoe Selo. Nicholas I was so impressed with this new form of transport that plans were quickly made to roll out a rail network across European Russia.

Legend has it that when the tsar commanded the 650km route to be built in 1850 between Moscow and St Petersburg, he accidentally drew around his own finger on the ruler as he traced out a straight line between the cities. Engineers, too afraid to point out the error, duly incorporated the kink into the plans, which became a 17km bend near the town of Novgorod.

The truth is somewhat more prosaic. The curve was actually built to circumvent a steep gradient that Russian steam locomotives of the time were not powerful enough to climb. In October 2001, the line was closed for 24 hours so that workers could finally straighten it out.

Muravyov was not content merely to reap the graft harvest that came with the office. He believed it was Russia's destiny to develop the Siberian Far East. With the tsar's approval, he collected some Cossacks and cruised the Amur, establishing towns for Russia and provoking fights with China. Preoccupied with foreign encroachment along the eastern seaboard, China was in no mood for hassles over Siberian forests. Thus, without bloodshed, Muravyov was able to re-draw the border with China along the Amur River in the north and the Ussuri River in the east in exchange for some cash and a promise of mutual security. At the tsar's request, Muravyov henceforth attached the sobriquet 'Amursky' to his name.

Muravyov-Amursky continued to pursue his vision of Siberian colonisation. He became a leading advocate of a railway that would connect European Russia to the Far East. He attracted a long line of suitors from Russia, England and the USA, offering their own proposals for a railroad to the Pacific. But these petitions went unheeded in St Petersburg, where neither political support nor financial backing was forthcoming. In the last quarter of the 19th century, however, domestic and international events prompted a change in attitude in St Petersburg.

Before the Trans-Siberian Railway, it was quicker to travel from St Petersburg to Vladivostok by crossing the Atlantic, North America and the Pacific than by going overland.

First, Russia's estate economy came under stress in the 1880s. Population growth and bad weather caused widespread famine and led to peasant unrest in the countryside. As a solution to the overcrowded villages and bread shortages, the government considered a policy of migration to the uncultivated lands of western and southern Siberia. The land-owning nobility were persuaded of the policy's merits as reports of pummelled foremen and torched manor houses became more frequent.

Second, in the late 19th century a regional intelligentsia began to write resentfully about Siberia's colonial status and admiringly about the American west. Regional elites tried to define a distinct Siberian cultural identity, which was rooted in the region's multiethnic frontier society. Their words fuelled fears that Siberia might go the same way as the Americas and seek political independence. In response, a consensus formed in Russia's ruling circles that Siberia's radicals and renegades needed to be reined in.

Third, the decline of the Chinese empire spurred the avaricious appetites of the great powers in the Far East. Russia's vulnerability in the Pacific was made very clear as early as the 1850s, when British and French warships launched assaults on the coastal town of Petropavlovsk-Kamchatsky on the Kamchatka peninsula during the Crimean War. The opening of the Suez Canal and the completion of the Canadian-Pacific Railway provided the British with easy access to the region. As a result, the 'Great Game', in which Russia and Great Britain vied for strategic leverage along the mountain passes of Central Asia, now spread to the coast of the Far East.

Victor Mote's *Siberia: Worlds Apart*, packed with pictures, graphs, maps and personal anecdotes, briefly covers the area's prehistory and then moves into the 20th century.

Finally, the most important event was a leadership change. In 1881 Tsar Alexander II was assassinated and succeeded by his son. Alexander II had earned a reputation as the 'Tsar Reformer', instituting sweeping internal changes meant to modernise and liberalise Russian society. Among his most notable reforms were the abolishment of serfdom and the introduction of local representative assemblies. By contrast, Alexander III was a political reactionary. He embraced the old regime's ideological pillars: autocracy, orthodoxy, empire. He aspired to rule through a strong centralised state. Much more so than his father, Alexander III embodied the nationalist spirit that infused the Age of Industrial Empire. He was anxious to join the competition for new territorial possessions and he swore to defend Russia's existing claims.

Starting in 1888 George Kennan produced 25 articles for *The Century* (later collected in *Siberia and the Exile System*) in which he attacked the tsarist government's policy of using Siberia as a prison camp.

In 1886, Alexander III responded to a petition for support from the governor general of Irkutsk: 'How many reports from Siberian governors have I not read already, and I have to admit with shame and grief that until now the government has done nothing to satisfy the requirements of this rich but neglected region. It is time, high time.' In March 1891 the tsar officially proclaimed the undertaking of a Trans-Siberian railway, from the Urals to the Pacific, and dispatched his son and heir apparent, Nicholas, to lay the first stone at Vladivostok.

TRAVELLING THE TRAKT

When the playwright Anton Chekhov set off in 1890 to investigate the notorious penal colony on the Russian Far East island of Sakhalin he travelled along the Trakt (Great Siberian Post Rd). It was much more a rough track than actual road; travellers could arrange transport at the posting stations spaced at about 40km intervals from each other. The mode of transport depended on the season with a sledge being used in winter and either a *kibitka* (covered cart) or a slightly more comfortable *tarantass* (carriage) available at other times. These were pulled by a *troika,* a group of three horses, driven by a *yamshchik* (driver) who was typically inebriated. Despite the undoubted discomfort and great length of the journey (it took Chekhov 2½ months to cross Siberia at what was considered a fast clip!) the American journalist George Kennan called transport along the route 'the most perfectly organised horse express service in the world'. Read Chekhov's impressions in *Journey to Sakhalin*.

1850 Construction of railway between St Petersburg and Moscow begins

1857 Tsar Alexander II issues Railway Decree to build a Russian rail network

1886 Tsar Alexander III gives the thumbs-up to the idea of a Trans-Siberian railway

1891 In Vladivostok Alexander III's son Nicholas lays first stone of Ussuri line to Khabarovsk

A STATE WITHIN A STATE

The task of building the Trans-Siberian Railway fell to one of imperial Russia's most industrious and talented statesmen, Sergei Witte. His rise to the highest levels of state service, given his modest pedigree, was testimony to his skills and shrewdness.

In *Road to Power: the Trans-Siberian Railroad and the Colonization of Asian Russia,* Steven Marks argues political concerns over competition with China and Korea contributed as much to the success of the railway as economic interests in developing Siberia.

Witte was entrusted by the tsar with overseeing the pedestrian details underlying the imperial vision. The Trans-Siberian Railway was no ordinary project and, thus, was not left to the ordinary process. The Siberian Railway Committee, a special panel with enhanced powers, was created to override the inevitable bureaucratic obstacles. At Witte's urging, the tsar named his son Nicholas to head the Committee. In so doing, Witte was able to exert influence on, and curry favour with, the 23-year-old tsarevitch.

As work progressed, the committee's scope expanded. It assumed responsibility for peasant resettlement to Siberia, diplomatic relations in the Far East and security forces along the route. In a jealous pique, the minister of foreign affairs remarked that Witte had built his own 'state within a state'.

For decades, proposals for a transcontinental railway had been quashed by frugal finance ministers. But that situation changed once the post was occupied by Witte, a devout Keynesian (even before Keynes!). After months of wooing the Rothschilds, they suddenly pulled out to protest Russian anti-Semitic legislation. Alexander, meanwhile, was swayed by the argument of economic nationalists, who warned against foreign participation in a project of such great strategic value. Witte was forced to raise money from a lean domestic economy.

Witte implemented a host of financial policies and manoeuvring to raise the necessary funds, including issuing bonds, raising taxes and taking out foreign loans. Finally, he set off a wave of inflation by printing extra roubles to cover the soaring construction costs. 'Better to lose money than prestige', he explained to the concurring tsar.

FROM TICKET SELLER TO EMPIRE BUILDER

The son of a colonial bureaucrat in the Caucasus and a graduate in mathematics, Sergei Witte (1849–1915) took a job selling train tickets in Odesa for the Southwest Railway Company just as Russia's railway boom got under way. He quickly mastered the logistics and finances of rail transport and was promoted to stationmaster, and then company director.

Witte's rare ability to turn a profit from the line and his efficient dispatch of troops during the first Balkans War earned him a post in the central railway administration in St Petersburg. His ascent continued with appointments as minister of transport and minister of finance, the latter probably the most powerful portfolio in the government.

Elite society considered Witte an outsider; his forceful personality and sudden appearance inside the tsar's court was much resented. But in Alexander III he had a most admiring patron. Moreover, Witte genuinely shared the tsar's vision of a Trans-Siberian Railway, describing it as 'one of the largest and most important undertakings of the 19th century, not only for the Motherland, but for all the world'. Truly a character of historic magnitude, Witte saw himself as Russia's Cecil Rhodes, an empire builder, and the Trans-Siberian Railway gave him the opportunity to realise this ambition.

The Trans-Siberian Railway also provided Witte with the opportunity to play diplomat, when he proposed to build a 560km short cut across Manchuria, rather than follow the northern bend in the Amur to Vladivostok. Already besieged with foreigners, the Chinese emperor rejected this indignity.

A determined Witte changed tactics. He bought the influence of senior Chinese statesmen, offered a generous loan to the close-to-bankrupt Chinese government and repackaged his proposal to look like a Chinese-Russian joint venture. The result was an 80-year lease agreement over a corridor of territory for the railway. The Manchurian diversion led to the formation of the East Chinese Railway Company and the Russo-Chinese Bank, which were both in fact fronts for the Russian Ministry of Finance.

In 1898, Witte negotiated further territorial concessions, allowing Russia to build a Southern Manchurian line to a warm-water outlet at Port Arthur (Dalian), located on the southern tip of the Liaodong Peninsula. The minister of finance, in effect, became the tsar's chief envoy to the Far East.

WORKING ON THE RAILROAD

Construction on the railway got under way almost immediately after the tsar's decree was issued in 1891. Beginning at Chelyabinsk, in the southern Urals, it was decided the line would run parallel to the old post road as far as Irkutsk. Then it would blaze an iron trail eastward through the untamed Baikal, Amur and Ussuri regions to Vladivostok, the eastern terminus on the Pacific.

This route was selected out of consideration for the south's warmer weather conditions and more arable lands, which would hopefully encourage new agricultural settlements. But it didn't please local industrialists and merchants, since it bypassed many larger mining colonies and river towns in the north. The line was later altered to accommodate these influential economic lobbies by including Perm, Yekaterinburg and Tyumen.

Building the world's longest railroad across a formidable landscape posed ongoing challenges of engineering, supply and labour. The railroad cut through thick forests, crossed countless rivers, scaled rocky mountains and traversed soggy quagmires. Work brigades were poorly outfitted. The heavy work was carried out using shovels and picks, while horses and humans did the hauling.

The Russian railway system, covering 85,500km of track, is the second largest in the world after the USA's 228,464km of track.

The builders had to keep the workers supplied with huge quantities of stone, timber and iron as well as with necessary food. Maintaining supply lines in Siberia's unsettled hinterland required the utmost resourcefulness.

No ready labour supply existed for this immense project. Workers were recruited, or conscripted, from all over the empire as well as from abroad. They toiled from dawn to dusk in the sweltering heat and freezing cold, and were preyed on by deadly diseases, forest bandits and hungry tigers.

The construction work was divided into seven territorial segments, starting simultaneously from the eastern and western terminus points.

1892
Construction of Western Siberian line from Chelyabinsk to Ob River (Novosibirsk) starts

1893
Construction of Central Siberian line from Ob River to Lake Baikal starts

1894
Chinese agree to Russians building Manchurian line from Chita to Vladivostok

1895
Construction of Trans-Baikal line from Lake Baikal to Sretensk starts

Western Siberian: 1892–96

From Chelyabinsk in the west (which is no longer part of the official Trans-Siberian route), it ran through Omsk and on to the Ob River, the site of present-day Novosibirsk. The western Siberian section was 1440km long and the easiest to build. For the engineers, the main challenge was attempting to span the many rivers that fed the Ob Basin. The crossings for the Irtysh and Ob Rivers both required the building of bridges that were almost 1km long. The region did not suffer from a shortage of materials or labour – the free peasants of western Siberia willingly enlisted in the work brigades, although many disappeared during the harvest season.

Central Siberian: 1893–98

The central Siberian section covered a distance of 1920km from the Ob through Krasnoyarsk and on to Irkutsk, west of Lake Baikal. The work of the engineers became more complicated on this leg, because of the mountainous terrain and the steep river valleys. The Yenisey River required a steel bridge nearly 1km in length. The earth – frozen until July and then swampy after the thaw – was less than ideal for digging. Water from the drained bogs collected in stagnant pools, which bred swarms of bloodthirsty mosquitoes around work sites.

Supply and labour now became chronic problems. Unlike on the plains, the line ran through forests with few settlements to tap for workers or provisions. The builders advertised throughout the empire, offering higher wages and bonuses to entice fresh forces. The shortage of skilled labour required for the stonework was especially acute.

'Water from the drained bogs collected in stagnant pools, which bred swarms of bloodthirsty mosquitoes around work sites'

Ussuri: 1891–97

Meanwhile, construction was under way in the east on the Ussuri section of the railway. Beginning in Vladivostok, the line ran northward through the Ussuri River Valley to Khabarovsk, a distance of about 800km. The forest terrain was more difficult for the engineers. Moreover, after the first tracks had been laid, it was discovered that the Amur rose as much as 10m during the spring, which meant redrawing the route and starting again. The builders faced severe labour shortages in this remote corner of the Far East. Despite initial misgivings, the construction brigades recruited over 8000 workers from the local Korean population and migrant Chinese labourers, over one-half of the total workforce for this section. They received lower wages than the Russian workers because, the foremen said, their work was inferior (though it may have been because they did not run tabs in the company canteen).

The builders of the Ussuri line introduced convict labour to the railroad, when 600 prisoners destined for incarceration on Sakhalin Island were instead ordered to start digging. Some prisoners escaped from their inexperienced handlers and went on a local crime spree. The project as a whole eventually employed nearly 15,000 convicts and exiles, with far better results. Many brigade foremen praised their contribution. Convicts, in turn, could work time off their sentences, and the living conditions were a small improvement over the tsar's prisons.

Circumbaikal: 1901–04

Heading east from Irkutsk, the builders encountered their most formidable obstacle, Lake Baikal. No previous experience prepared the engineers for the frigid lake's steep rocky cliffs, which dominated the shoreline.

Engineers initially decided that construction of a railroad line around the lake would be impossibly expensive. Instead, the steamship *Baikal,* strong enough to smash through ice, was commissioned from a British firm. From April 1900 it transported train carriages between Port Baikal (p202) on the western shore and Mysovaya (now Babushkin), while passengers followed on the *Angara* – now salvaged and moored in Irkutsk. However, the ships proved less than efficient, being prey to severe storms and sometimes-impassable ice. This hindrance became a national security threat in 1904 – when Russia needed to transport troops and supplies to the front during the Russo-Japanese War temporary tracks were actually laid across the ice in an attempt to expedite the military movement. Tragically, the ice cracked under the very first train to attempt this crossing, and it sank into the Baikal's icy waters.

The Circumbaikal consumed four times as much stone as the entire Trans-Baikal section. Workers chiselled 39 tunnels into the lake's craggy capes and erected over 100 bridges and viaducts.

Despite earlier hesitation, the decision was made in 1901 to begin construction of a railway line that would skirt the southern edge of the lake, connecting Port Baikal and Mysovaya. The project was overseen by VA Savrimovich, a highly regarded engineer and surveyor. The cliffs around the lake made this the most challenging section of all to build. Tsar Alexander III brought in Armenian and Italian masons to design the elaborate portals and arched bridges. The pride of Mother Russia at the time, this section was nicknamed 'the Tsar's Jewelled Buckle'.

In the 1950s the Angara River was dammed, raising Lake Baikal by around 6m and submerging the railway line between Irkutsk and Port Baikal. A short-cut line bypassing this flooded section was built between Irkutsk and Slyudyanka – today's Trans-Siberian mainline. The remaining 94km of the Circumbaikal Railway became a somewhat neglected branch line. However, a few weekly minitrains still chug through its 39 completely unlit tunnels and over more than 200 bridges, much to the delight of tourists and train buffs; see p205 for details.

Trans-Baikal: 1895–1900

The Trans-Baikal section ran from the eastern shore of Lake Baikal past Ulan-Ude and Chita, then on to Sretensk on the Shilka River. For the engineers, this section of 1072km of dense forest was nearly as daunting as the Circumbaikal, and would prove more frustrating. The railroad had to scale the Yablonovy Mountains, rising 5630m above sea level. The rivers were not so wide, but they ran in torrents and cut steep valley walls. The tracks were laid on narrow beds along high mountain ledges. Dynamite was used to dig deeper into the permafrost to erect sturdier supports. Harsh weather, including summer droughts and heavy rains, exacerbated the difficulties. The great flood of 1897 washed away over 300km of laid track and 15 completed bridges.

Amur: 1907–16

The 2080km-long Amur section presented similar engineering, supply and labour challenges. The Amur required some of the longest and most

1898 Chinese agree to Russians building Southern Manchurian line to Port Arthur (Dalian)

1900 First Trans-Siberian services go into operation

1901 Construction of Circumbaikal line along southwestern shore of Lake Baikal starts

1904 Japan attacks Port Arthur

complicated bridges, including a span of almost 2km across the Amur. The builders relied heavily on convict labour, supplemented by army units and Chinese migrants. Building materials, including iron rails, had to be imported from British and North American suppliers.

The Amur was the last section of the Trans-Siberian to be built, going into operation only in 1916. The railway's first travellers transferred into boats at Sretensk for a long river voyage down the Amur to Khabarovsk, where they could reboard the train. Later travellers bypassed the Amur, when the railway was diverted through northern China.

East Chinese: 1897–1901

In 1894 Russia secured the agreement from the weak Chinese empire that allowed for a Manchurian section of the Trans-Siberian Railway. From Chita, the 1440km-long East Chinese Railway turned southeast, crossing the Argun River and rolling through Harbin to Vladivostok. It sliced over 600km off the journey. Chinese officials had insisted on a narrow gauge to fit their existing rail system, but after a one-sided negotiation the Russian wide gauge was chosen. The terrain of flat steppe lands, wide mountain passes and fertile river valleys elated the exhausted builders.

However, other problems soon arose. In 1899, Chinese nationalism mobilised into a rancorous antiforeigner movement, the self-proclaimed 'Fists of Higher Justice'. Better known as the Boxer Rebellion, the movement quickly spread to Manchuria and the Russian-controlled railway. Stations and depots were set ablaze, 480km of track were torn up and besieged railroad workers took flight. The line was only able to return to service after the Russian military intervened.

For state leaders, time was of the essence, so the work brigades pressed on, driving a modern wedge into an ancient wilderness. Despite the many obstacles, construction proceeded apace. In August 1898, the first train rolled into the station at Irkutsk, two years ahead of schedule. In the same year, the line between Vladivostok and Khabarovsk went into operation. In 1900, service began on the Trans-Baikal section. At this point, a train journey across Siberia was possible, although supplemented in stages by water transport. The completion of the Amur line in 1916 represented the possibility of travelling exclusively by rail from St Petersburg in the west to the Pacific entirely within Russian territory.

RIDING THE RAILS

The Trans-Siberian Railway was introduced to the world at the Paris Exhibition in 1900. Visitors to the Russian pavilion were treated to visual images of Siberia's pristine rugged landscape and exotic native cultures. They were also impressed by the luxuriously decorated mock-up wagon displays. The 1st-class sleepers offered comfortable and commodious compartments. The dining car enticed visitors with caviar, sturgeon and other Russian delicacies. The exhibit featured a handsome smoking car, a music salon with piano, a well-stocked library, a fully equipped gymnasium and a marble and brass bath. The exhibit also boasted that the Trans-Siberian would shave off 10 days from the present travel time of five weeks from London to Shanghai. Here was elegance and efficiency, provided in high Russian style.

The price of a 1st-class ticket from Moscow to Vladivostok on the initial Trans-Siberian trains was R114.

The personal accounts of early travellers suggest that the actual journey did not live up to its advance billing. Although 1st-class accommodation was comfortable enough, most of the other promised indulgences were underwhelming, to say the least. East of Baikal the train routinely ran out of food and had to stop once a day at small stations en route. 'Today we did not eat until 3pm, and then it was vile,' wrote one cranky American traveller in 1902. 'There was one wretched little eating room filled with Russians. You may stand around and starve for all they care.'

In addition, the Trans-Siberian did not succeed in providing a more expeditious route to the Far East. The hastiness that went into construction was exposed in operation. Travellers experienced frequent delays, sometimes lasting days. The Trans-Siberian had the highest accident rate of any other line in the empire. Ties splintered, bridges buckled and rails warped. The locomotives chugged along at no more than 25km/h because of the risk of derailment at higher speed. One Beijing-bound passenger scribbled in resignation: 'A traveller in these far eastern lands gradually loses his impatience and finally ceases to care whether his train goes fast or slowly, or does not go at all. Certainly we have been two hours at this station for no apparent reason.' (This sentiment may ring true even for travellers today.)

In *A Ribbon of Iron*, Annette Meakin, the first Englishwoman to circumnavigate the globe by rail in 1900, recounts her generally favourable impressions of the early Trans-Siberian train services.

A principal goal of the railway was to facilitate the resettlement of European Russia's rural inhabitants, in the hopes of easing social tensions and offering economic opportunities. In the 1800s the tsar had officially lifted restrictions on internal migration and opened up Siberia for colonisation. Between 1860 and 1890 less than 500,000 people moved to Siberia. But once the train came on line, the population's eastward drift turned into a raging torrent.

Between 1891 and 1914, over five million new immigrants settled in Siberia. Station halls were packed with hundreds of waiting peasants sleeping on the floor. Third-class fares were kept low so that ordinary subjects could ride the rails. One could travel for more than 3200km on the Trans-Siberian for less than R20. These wagons dispensed with any pretension of style or comfort. A 1st-class rider observed: 'The 3rd-class passengers are packed like sardines. Their cars hold nothing save wooden bunks, two tiers thereof, and each has four and sometimes six. One's health would certainly be jeopardised by a passage through them. I notice that our car is constantly guarded. I am not surprised, and do not object in the least.'

RELIGION ON THE RAILS

The original pre-1917 Trans-Siberian trains included a Russian Orthodox church car, complete with icons, bells and a travelling priest. At stations along the route where a church had yet to be built the church car was used to hold services for the locals, railway workers and any interested passengers.

Jump forward a century to April 2005 and the Russian Orthodox Church has signed an agreement with Russian Railways to cooperate, among other things, on restoring chapels and mobile carriage chapels to the railway transport system station.

1905 Russia concedes Southern Manchuria to Japan but keeps control of East Chinese Railway

1907 Construction of Amur line from Sretensk to Khabarovsk starts

1916 Completion of Amur line and Trans-Siberian route as it exists today

1917 Bolshevik Revolution

WAR & REVOLUTION

Alexander III saw the Trans-Siberian Railway as the means by which the Russian empire would act as a great power in the Far East. Under his less able successor, Nicholas II, the construction of the railway instead provoked confrontations that exposed the manifold weaknesses of imperial Russia. The railway and railroad workers played prominent supporting roles in the tumultuous political events that subsequently toppled the tsarist autocracy and brought radical socialism to power in the early 20th century.

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The Russo-Japanese War

The East Chinese Railway involved Russia in the multilateral dismemberment of the Chinese empire. In the subsequent grab for territorial and commercial concessions in Manchuria, Russia came into direct conflict with imperial Japan. Witte was always inclined towards diplomacy in Russia's Far Eastern policy, but Nicholas fell under the sway of more adventurous advisors. 'What Russia really needs,' the minister of interior opined, 'is a small victorious war'.

The tsar's aggressive stance in the Far East provoked Japan to attack Port Arthur in February 1904. The overconfident Nicholas was dazed by the rapid string of defeats in the field. Japanese forces quickly seized the advantage over Russia's outnumbered troops, while the reinforcements remained stalled at Lake Baikal. The single-track, light-rail Trans-Siberian was simply overwhelmed by the demands of war. The tsar dispatched his prized Baltic fleet. In May 1905, the war concluded when – upon reaching the Tsushima Straits – the fleet was annihilated in just one afternoon. Nicholas summoned Witte to salvage Russia's dignity in the peace negotiations. Under the Treaty of Portsmouth, Russia agreed to vacate Southern Manchuria, but managed to hold on to the East Chinese Railway.

The 1905 Revolution

Russia's woeful performance in war unleashed a wave of anti-tsarist protest at home. The reactionary impulses of the regime were fully displayed in January 1905 when peaceful demonstrators, led by an Orthodox priest, were shot down in front of St Petersburg's Winter Palace. The 'Bloody Sunday' massacre did not quell the unrest, but instead incited more people to take to the streets. Among the most radical participants in the 1905 Revolution were the railroad workers.

At turns anecdotal and specific, *A People's Tragedy: The Russian Revolution 1891–1924,* by erudite scholar Orlando Figes, paints a vivid picture of this tumultuous period in Russian history.

Like most Russian workers, railroad employees laboured under harsh conditions, received scant wages and suffered tyrannical bosses. Unlike other sectors, however, the railroad workers could paralyse the economy by going on strike. The government maintained a special railway police force, 8000 strong, which spent its time intimidating labour organisers.

Railroad workers were quick to join the protest movement, as 27 different lines experienced strikes in the first two months of 1905. In April, they coordinated their efforts by forming an All-Russia Union of Railroad Workers. At first, they demanded economic concessions, such as higher wages and shorter hours, but soon their demands became more political, such as the rights to organise and strike.

The government attempted to impose martial law over the railway system. The railway union responded by calling for a total shutdown of service. The strike started in Moscow, spread to every major railway line and sparked a nationwide general strike. The movement only subsided after the tsar issued the October Manifesto, which promised to reform the autocracy into a constitutional monarchy.

The Bolshevik Revolution

Radical railroad workers also played a crucial role in the Bolshevik Revolution of 1917. Exhausted by its involvement in WWI, the tsarist regime lost its ability to rule and fell to street demonstrators in February 1917. Nicholas' abdication created a power vacuum in the capital. The liberal provisional government hesitated to make decisions or end the war, which swung public sentiment towards the more radical political parties.

Geoffrey Elliot's *From Siberia with Love,* a family history of the author's Russian-exile grandfather, is fleshed out with almost manic attention to detail with much of the action occurring in Chita and Irkutsk.

In an attempt to restore order, General Kornilov ordered his troops at the front to march on St Petersburg, with the intention of declaring martial law. Radicals and liberals alike took cover. But Kornilov's men never made it. Railroad workers went on strike, refusing to transport them, and the putsch petered out. Within weeks, Vladimir Ilych Lenin and the Bolsheviks staged a palace coup, deposed the provisional government and declared themselves rulers of Russia.

The Russian Civil War

The Bolsheviks' claim on power was soon challenged. In the spring of 1918, as the war in Europe continued without Russia, a legion of Czech POWs tried to return home to rejoin the fighting. Unable to cross the front line in the west, they headed east. Along the way, they provoked a confrontation with the Bolsheviks. When the White Army, hostile to the Bolsheviks, came to support the Czechs, the Russian Civil War began.

The Czech legion seized control of the western half of the Trans-Siberian Railway; in the meantime, the Japanese, who had landed in Vladivostok, took control of the railway east of Baikal. A separatist Siberian Republic was formed in Omsk, that is, until tsarist naval officer Admiral Kolchak overthrew the Omsk government and declared himself supreme ruler of Siberia. Another former tsarist general reigned over the East Chinese Railway in Manchuria. Cossacks menaced the Trans-Baikal and Amur regions. Siberia had returned to the era of warlords.

Seventeen Moments in Soviet History (www.soviethistory.org) is a well-designed site that covers all the major events during the life of the USSR.

It took the Bolsheviks more than three years to secure complete control over the Trans-Siberian and to establish Soviet power across Siberia. Kolchak was arrested, tried and shot for his less-than-sterling performance as supreme ruler.

Development of Siberia

The construction of the Trans-Siberian Railway was intended to foster industrial development in Siberia. As such, an engineering and technical school was founded in the late 19th century in the city of Tomsk, to become Siberia's first university. Scores of factories, mills and mines sprung up along the route to feed the railroad's huge appetite for iron, bricks and lumber. However, Siberia's fledgling industries could not keep pace with the growing demand.

1918 Start of Russian Civil War; Czech army seizes control of western half of Trans-Siberian Railway

1920 End of Russian Civil War

1929 Electrification of Trans-Siberian line begins

1930s Construction of Baikal-Amur Mainline (BAM) starts

The project served as an economic stimulus for other regions. The mining and metal works in the Urals became the chief supplier of iron and steel. The sprawling manufacturing works around St Petersburg and Moscow were contracted to supply the rolling stock. By 1905 over 1500 locomotives and 30,000 wagons had rolled out of Russian factories. At the same time, the railway system as a whole employed over 750,000 workers involved with engines and rolling stock, traffic management, track maintenance and administration. Higher wages, as much as 50% above the norm, attracted railway employees to the Trans-Siberian line.

After coming to power, Russia's new Soviet rulers were committed to rapid industrial development. To meet this goal, they needed to gain wider access to Siberia's plentiful raw materials. Thus, they invested heavily in upgrading the Trans-Siberian Railway. A second track was built alongside the original single line. The light rails were replaced with heavier, more durable rails. Wooden bridges and supports were replaced with iron and steel. Working conditions on the railway did not improve much under the new socialist regime, but railway workers were now extolled for being in the vanguard of the industrial proletariat.

In 1911, Siberia recorded about nine million inhabitants; by 1959, the number had increased to nearly 23 million.

In the 1930s the Soviet regime launched a state-managed campaign of industrialisation, in which large-scale projects in Siberia figured prominently. The Kuznets Basin became a prodigious supplier of coal, coke, iron and steel.

At the same time, the paranoid and vengeful Soviet dictator, Josef Stalin, was engaged in a 'class war' against his own citizens and comrades. The victims of Stalin's terror who were not shot were sent to forced labour camps known as the Gulag (p138). Siberia's industrial revolution was built on the backs of millions of imaginary 'enemies of the people'.

In WWII, Nazi Germany's blitzkrieg invasion was an unintended impetus for Siberia, when the industrial stock of European Russia was hastily evacuated to safer interior locations. During the German occupation, the Trans-Siberian Railway served as a lifeline for Soviet survival. It furnished the front with the reinforcements and equipment that eventually wore down the formidable Nazis.

In the 1950s Siberian development was energised by the discovery of oil and gas. While these deposits were in the north, they promoted development in the cities along the railway, such as the oil refinery in Omsk and the chemical plant in Irkutsk.

The Pulitzer Prize–winning *Gulag: A History* by Anne Applebaum is the definitive account of the forced labour camps of Russia's most desolate regions.

Stalin's reform-minded successor, Nikita Khrushchev, denounced his former boss and liberated millions of labour-camp inmates. Meanwhile, incentive-laden offers lured new workers to the region, and the Siberian population became highly skilled. A uniquely planned academic community was created near Novosibirsk. Military industry flourished in secret cities, sheltering well-tended scientists and technicians. By 1970, 13 Siberian cities had populations of 250,000 or more.

During this time, Siberia's indigenous populations were increasingly assimilated into the lifestyle and culture of Soviet Russian society. In 1900, native peoples accounted for more than 15% of Siberia's total population but, by 1970, this number was less than 4%. Simultaneously, Siberia's development was having increasingly detrimental effects on the environment (see p62).

1931
Opening of Turkestan-Siberian line from Novosibirsk to Central Asia

1935
Russia sells East Chinese Railway in Manchuria to Japan

BRANCHING OUT

The Soviet regime intended to further develop overland access to the Eurasian continent so that travellers could reach ever more remote corners of the Far East. The construction and operation of branch lines throughout the Far East were entangled in the politics of the region for most of the 20th century.

The Trans-Manchurian

The Trans-Manchurian line connects Beijing to the Trans-Siberian at Chita, via the Russian-built East Chinese and South Manchurian Railways. The South Manchurian, however, fell to Japan as a spoil of war in 1905. At this time, American railroad baron EH Harriman made several generous bids to buy these routes from their respective operators. He saw a rare opportunity to realise his ambition of building a railroad line that circumnavigated the globe. Harriman's offers, however, were rebuffed.

Bernardo Bertolluci's *The Last Emperor* (1988) is a lavishly mounted, epic-scale story of Puyi, China's last imperial ruler.

In 1922 China persuaded Soviet Russia – which was weakened by war and revolution – to renegotiate the status of the East Chinese Railway between Vladivostok and Port Arthur. The Soviet government renounced its special economic privileges in Manchuria and agreed to joint custody of the railway. As Manchuria was the scene of an ongoing power struggle, the Russians had to continuously defend their (partial) claim to the railway line. During the 1920s the Russian managers were arrested by a Manchurian warlord and again by Chiang Kaishek (leader of the Kuomintang, the Chinese Nationalist Party), both of whom seized control of the railroad. In each case the aggressors were forced to relinquish their prizes and prisoners. In 1932 the Japanese took control of Manchuria, renaming it Manchukuo and installing the last Manchu emperor, Puyi, as a puppet ruler. Under pressure, Russia sold her interest in the East Chinese Railway to the new rulers in 1935.

This was not the end of the line, however. According to the secret protocols negotiated at Yalta, Winston Churchill and Franklin D Roosevelt conceded back to Stalin the East Chinese and South Manchurian rail lines, as part of the price of Soviet entry into the Pacific War. Russia's return to Manchuria was brief; the lines were given back to China in 1952 as a goodwill gesture to its new communist regime.

In 2005 China and Russia settled a post-WWII dispute over 2% of their 4300km common border. For the first time, the whole border is legally defined.

Ironically, geopolitics proved stronger than ideology. By the mid-1960s relations between China and Russia soured and the border was closed, thus stopping the Trans-Manchurian service. The low point was in 1969 when armed clashes occurred over Damansky Island in the Ussuri River, the border between the two communist neighbours. The so-called Sino-Soviet Split lasted until the early 1980s, and since this time Russian-Chinese relations have warmed considerably, allowing the Trans-Siberian to be reconnected to the Trans-Manchurian.

The Trans-Mongolian

The 2080km Trans-Mongolian line was built along the route travelled by the ancient tea caravans, from Beijing through Mongolia to Ulan-Ude. The line was built piecemeal, a direct result of fluctuations in the Russian-Chinese relationship.

1941
Hitler invades Russia, bringing that country into WWII

1952
China given control of Manchuria's East Chinese Railway

In the 1907 Peking–Paris car rally, contestants followed what would become the Trans-Mongolian rail route. The winners were Italian Prince Borghese and journalist Luigi Barzini.

During the late 19th century, Mongolia was formally part of the Chinese Manchu empire. After centuries of neglect, China's officials became more interested in the region, much to the irritation of the Mongols. Plans were made to construct a railroad from Beijing to Örgöö (Ulaanbaatar). Instead, the Chinese empire collapsed in 1911.

Mongolia was very eager to be rid of its Chinese overlord but was too weak to fend for itself. Russia emerged conveniently as a protective patron of Mongolian independence. The Soviet Union consolidated its influence in 'independent' Mongolia through the signing of agreements on economic and military cooperation. In 1936 the announcement came of construction of a short rail route linking Mongolia to Soviet Buryatia, whose peoples shared close ethnic ties. This new line between Ulan-Ude and Naushki was completed in 1940, and in 1949, it was extended to the capital, Ulaanbaatar.

In the early 1950s, relations between the Soviet Union and communist China relaxed a bit, allowing the Chinese to finally begin work on the long-planned railroad connecting Beijing to Ulaanbaatar. Although train service began on this line in 1956, the Sino-Soviet Split in the 1960s closed the border. Like the Trans-Manchurian, the Trans-Mongolian line was reopened in the 1980s.

The Turkestan-Siberian

The Turkestan-Siberian (Turk-Sib) connects the Trans-Siberian to Central Asia. From Novosibirsk, the 1680km line heads south over the Altai Mountains and across the Kazakh steppe to Almaty. The line was first planned in the last years of the tsarist empire, when the initial segment of track was laid between Barnaul and Semipalatinsk. It was not completed, however, until the Soviet period, after Stalin made the Turk-Sib one of the more prominent construction projects of the first five-year plan.

The 1929 silent documentary *Turksib* about the Turk-Sib railway is a classic example of socialist-realist cinema by Soviet film director Viktor Turin.

The route was opened in 1931. The railway was built to facilitate the exchange of Central Asian cotton for western Siberian grain. This trade would keep the looms busy in the textile factories of the north, while the import of cheap food would free up more land for cotton cultivation in the south. The construction of the Turk-Sib was also meant to stimulate industrial development in the region, hence its nickname, 'the Forge of the Kazakh Proletariat'.

In 1996, newly independent Kazakhstan took over its section of the line for a state-managed railway firm. From the southern terminus at Lugovaya, the line extends to Chimknet in western Kazakhstan and to Bishkek in Kyrgyzstan.

The Baikal-Amur Mainline

The 4234km Baikalo-Amurskaya Magistral (Baikal-Amur Mainline, or BAM) begins west of Irkutsk and passes north of Lake Baikal on its way east to the Pacific coast; for details of travel along it see p239. The route was first considered as an option for the eastern end of the Trans-Siberian line in the 1880s, but it would not be until the 1930s that work actually started on its construction, the first phase being from Tayshet to Bratsk (p242).

Although parts of the far eastern end of the line were built from 1944 partly using Japanese and German POWs as labour, the project was put on indefinite hold in 1953 after the death of Stalin. Its resumption, amid much propaganda fanfare, came in 1974, when Leonid Brezhnev hailed it the 'Hero Project of the Century'. The call went out to the youth of the Soviet Union to rally to the challenge of constructing the BAM. The response is evident from the names of towns along the line: Estbam, Latbam and Litbam, so called for the young workers from the Baltic states who built them.

In 1984 a golden spike was used to connect the eastern and western ends of the BAM.

The BAM was badly mismanaged. Instead of a construction chief, 16 different industrial ministries organised their own separate work teams with minimal coordination. By 1980, 50% of the managers had been replaced because of 'unsatisfactory work'. The project employed 100,000 workers, including 20,000 communist youth league 'volunteers'. Lacking housing and electricity, few workers re-enlisted and others simply deserted.

The BAM epitomised the best and worst of Soviet industrialisation. It blazed a trail through inhospitable climate and terrain, providing access to the region's mineral-rich basins. The BAM towns expanded with the new railway, which was being forced through virgin wilderness. Overcoming Siberia's swamps, its seven mountain ranges, its seemingly infinite number of rivers and, in particular, its vast swath of permafrost, pushed the cost of the project to a staggering US$25 billion (the original Trans-Siberian is estimated to have cost the equivalent of $500 million).

Go to www.eng.rzd.ru to read Russian Railway's PR version of the history of the BAM line.

The BAM was officially opened in 1991, when it became possible to travel the whole length from Tayshet to Sovetskaya Gavan on the Pacific coast. However, the line's 15.34km Severomuysk tunnel, the longest in Russia, was only completed in 2003.

The Trans-Korean

A new branch line is tentatively planned for the future. The Trans-Korean line, from Seoul in the south to Wonson in the north, would recreate the old Kyongwan Railway, from the early 20th century. The line would connect with the Trans-Siberian at Vladivostok, establishing an overland rail route between the Korean Peninsula and Central Asia and Europe.

A small but significant step forward was taken in September 2000, when North and South Korean leaders agreed to restore a short train service across the world's most heavily fortified border. To promote the project, North Korean leader Kim Jong Il made a much publicised junket

HIGH-SPEED TRAINS

It's unlikely that in the near future there will be high-speed trains, à la Japan's Shinkansen and France's TGVs, running along the entire Trans-Siberian route. However, Russian Railways is beginning to invest in high-speed rail infrastructure and locomotives. In March 2005 it signed an agreement with Germany's Siemens AG to manufacture 60 new generation high-speed electric trains – these will run along the Moscow–St Petersburg route as well as St Petersburg to Helsinki, Moscow to Minsk, and Moscow to major yet-to-be-specified Russian cities.

1956 Services start along Beijing to Ulaanbaatar line, but stop again in 1960s

1974 Construction of BAM resumes

1980 Trans-Mongolian and Trans-Manchurian lines reopen

1991 Official opening of the BAM

on the Trans-Siberian in the summer of 2001. In Moscow, Kim met with Russia's President Vladimir Putin, and they announced that the Trans-Korean was 'entering the stage of active development'.

SIBERIA IN TRANSITION

Electrification of the Trans-Siberian line, begun in 1929 and finally completed in 2002, allows a doubling of train weights, to 6000 tonnes.

After decades of overbearing central control, the fall of the communist regime in 1991 ignited a spontaneous diffusion of power across Russia's regions. This process was accelerated by Russia's President Boris Yeltsin, who urged regional leaders to 'take as much sovereignty as you can swallow'.

In Siberia, these dramatic events rekindled the separatist spirit. Siberian Accord, a confederation of regional political actors, was founded in Novosibirsk in 1991. Resentful of Moscow's grabbing hand, they were determined to wrest control of Siberia's natural resources away from central-government ministries. President Yeltsin, a former regional governor himself, defused the conflict through a negotiated compromise, by which Siberia's regions were granted greater political autonomy and a larger share of the region's wealth. His successor, Putin, however, has pursued a policy of gradual recentralisation.

In some ways, post-communist Siberia has come to resemble the 'Wild Wild East' of olden days. The privatisation of state property has given rise to a new breed of economic adventurer. Those who have succeeded in gaining control over Siberia's prized natural resources have reaped great fortunes. Siberia's regional governors openly defy the Kremlin's edicts and pillage the local economy for private gain.

In 2003 Russian Railways became a joint-stock company with the federal government, the sole owner of shares estimated at R1545.2 billion (more than US$50 billion).

Outlying towns and villages have been abandoned for lack of work and food. As a result, people are now leaving Siberia in droves. On a more positive note, the major cities along the railway, which were closed even to Soviet citizens, have been opened and integrated into the new post-Soviet Siberia. In foreign affairs, the improvement in Russian-Chinese relations has reopened the border in the Far East. The old Trans-Siberian link to Manchuria has been re-established and now supports a thriving business in cross-border trade and smuggling.

Some things, however, never change. For reasons of national security and public service, the Trans-Siberian Railway remains a state-managed monopoly. It continues to be one of the busiest railway lines in the world. Most importantly, the Trans-Siberian endures as the vital lifeline for the people of Siberia.

2001

Russia and North Korea discuss development of a Trans-Korean line

2002

Completion of electrification of Trans-Siberian line

The Cultures

A Trans-Siberian journey is a great opportunity to meet with Russians from all walks of life and to get to grips with Russia's culture. Those travelling the Trans-Mongolian and Trans-Manchurian routes can do likewise in both China and Mongolia. The following sections cover the basics, to help you start making some sense of these three countries.

Teach Yourself World Cultures: Russia, by Stephen and Tatyana Webber, is a decent layperson's stab at decoding all aspects of Russian culture.

RUSSIA

The National Psyche

Compared with the Chinese and Mongolians, Russians can initially come across as rather unfriendly. Although surly, uncommunicative Russians are still found in certain 'service' industries (things are, however, rapidly improving), the overwhelming Russian character trait is one of genuine humanity and hospitality. Once the ice has been broken on the train and in the towns you pass through, you'll typically find yourself being regaled with stories, drowned in vodka and stuffed full of food. This can be especially true outside the big cities, where you'll meet locals determined to share everything they have with you, however meagre their resources.

Unsmiling gloom and fatalistic melancholy remain archetypically Russian, but this is often used as a foil to a deadpan, sarcastic humour. You'll soon learn how deeply most Russians love their country. They will sing the praises of Mother Russia's great contributions to the arts and sciences, its long history and its abundant physical attributes, then just as loudly point out its many failures. The dark side of this patriotism is an unpleasant streak of racism. Don't let it put you off, and take heart in the knowledge that as much as foreigners may be perplexed about the true nature of the Russian soul, the locals themselves still don't have it figured out either! As the poet Fyodor Tyutchev said, 'You can't understand Russia with reason… you can only believe in her'.

Lifestyle

In the world's biggest country the way of life of a Nenets reindeer herder in Siberia is radically different from that of a marketing executive in Moscow or an Islamic factory worker in Kazan. Not only this, as Russia grows more prosperous, the gap between rich and poor – and the lives they lead – becomes larger.

THE RULES OF RUSSIAN HOSPITALITY

- If you're invited to a Russian home, always bring a gift, such as wine or a cake.
- Shaking hands across the threshold is considered unlucky. Wait until you're fully inside.
- If you give anyone flowers, makes sure there's an odd number as even numbers are for funerals.
- Remove your shoes and coat on entering a house.
- Once the festivities begin, refusing offered food or drink can cause grave offence.
- Vodka is for toasting, not for casual sipping. Wait for the cue.
- When you are in any setting with other people, even strangers such as those in a train compartment, it's polite to share anything you have to eat, drink or smoke.
- Traditional gentlemanly behaviour is not just appreciated but expected, as you will notice when you see women standing in front of closed doors waiting for something to happen.

A GUIDE TO BANYA ETIQUETTE *Steve Kokker*

After stripping down in the sex-segregated changing room, wishing *'Lyogkogo* (read as lyokh-kava) *para'* to their mates (meaning something like 'May your steam be easy!'), bathers head off into the *parilka* (steam room). After the birch-branch thrashing (best experienced lying down on a bench, with someone else administering the 'beating'), bathers run outside and, depending on their nerve, plunge into the *basseyn* (ice-cold pool).

With eyelids draped back over their skull, they stagger back into the changing room to their mates' wishes of *'Slyogkim parom'* (Hope your steam was easy!). Finally, bathers drape themselves in sheets, sip restorative cups of tea or beer and discuss world issues before repeating the process. Most *banya* experts go through the motions about five to 10 times over a two-hour period.

This said, there are common features to life across Russia. For the vast majority of urban Russians, home is within a drab, ugly housing complex of Soviet vintage. Although quite cosy and prettily decorated on the inside, these apartments are typically cramped and come with no attached garden. Instead, a large percentage of Russian families have a dacha, a small country house. Often little more than a bare-bones hut (but sometimes quite luxurious) these retreats offer Russians refuge from city life and as such figure prominently in the national psyche. On half-warm weekends, places such as Moscow begin to empty out early on Friday as people head to the country. Around Siberian cities, such as Irkutsk and Chita, the small wooden dwellings you see close to the train tracks will be dacha, too.

One of the most important aspects of dacha life is gardening. Families grow all manner of vegetables and fruits to eat over the winter. Flowers also play an important part in creating the proper dacha ambience, and even among people who have no need to grow food the contact with the soil provides an important balm for the Russian soul. It's also quite likely that a dacha will have a traditional *banya* (hot bath) attached to it.

Go to www.unpo.org and www.eki.ee/books/redbook for profiles of over 80 ethnic groups in lands currently or once ruled by Russia.

For centuries, travellers to Russia have commented on the particular (in many people's eyes, peculiar) traditions of the *banya*. To this day, Russians make it an important part of their week and you can't say you've really been to Russia unless you've visited a *banya*. The main element of the *banya* is the *parilka* (steam room). Here, rocks are heated by a furnace, with water poured onto them using a long-handled ladle. Often, a few drops of eucalyptus or pine oils (sometimes even beer) are added to the water, creating a scent in the burst of scalding steam that's released into the room. After this some people stand up, grab hold of a *venik* (a tied bundle of birch branches) and beat themselves or each other with it. Though it can be painful, the effect can also be pleasant and cleansing: apparently, the birch leaves (sometimes oak or, agonisingly, juniper branches) and their secretions help rid the skin of toxins.

Many city *banya* are run-down and unappealing (a classy exception is Moscow's splendid Sanduny Baths, p111). Grab any chance to try a traditional countryside *banya*: nearly all the guesthouses on Olkhon Island in Lake Baikal (see p203) have them.

Population

Close on three-quarters of Russia's 143.5 million people live in cities and towns. Rural communities are withering: in the 2002 census, of Russia's 155,000 villages, 13,000 had been deserted and 35,000 had populations of less than 10 people.

Russia is also facing an alarming natural decline in its population – around 0.45% per year. In the last decade alone the population has plummeted by some six million people. The average life expectancy for a Russian man is 60 years, for a woman 74. At current rates the population will decline to 123 million by 2030. Much of this is due to the population's staggering health problems related to a diet high in alcohol and fat. Accidental deaths due to drunkenness are frequent.

About 81.5% of Russia's people are ethnic Russians. The next largest ethnic groups are Tatars with 3.8% (the capital of Tatarstan is Kazan), followed by Ukrainians (3%), Chuvash (1.2%), Bashkirs (0.9%), Belarusians (0.8%) and Moldavians (0.7%). The remaining 8.1% belong to dozens of smaller ethnic groups, all with their own languages and cultural traditions (in varying degrees of usage), and practising different religions.

Over 30 original indigenous Siberian and Russian Far East peoples now make up less than 5% of the region's total population. Along the Trans-Siberian routes, the main ethnic groups you'll encounter are Mongol Buryats in and around Ulan-Ude (see p212) and Lake Baikal; and the Nanai in the lower Amur River basin near Khabarovsk.

Anna Reid's *The Shaman's Coat* is both a fascinating history of the major native peoples of Siberia and the Russian Far East and a lively travelogue of her journeys through the region.

Media

Genuine freedom of speech has migrated from TV to the newspapers, the best of which offer editorial opinions largely independent of their owners' or the government's views. The leading paper, and one of the most respected, is *Kommersant,* owned by the anti-Putin Boris Berezovsky, closely followed by *Izvestiya* (bought in 2005 by Gazprom, the state-owned gas monopoly). *Novaya Gazeta* is a staunchly anti-Putin tabloid. Other tabloid-type (but not necessarily format) papers are *Komsomolskaya Pravda;* the Putin-friendly *Argumenty i Fakty;* and *Moskovsky Komsomolets,* which varies with the political wind.

He who controls the TV in Russia, rules the country – and no-one else understands this better than President Vladimir Putin who has waded in with all the might of the state against channels such as NTV that once dared to criticize his administration. Not that Russian TV is managed by some sort of Soviet-styled spooks. In fact the heads of the main state channels – Channel 1 and Rossiya – were among those young journalists who gave Russian audiences a taste of editorial freedom in the 1990s. Many faces on the screen remain the same, but news and analysis are increasingly uncontroversial.

Russian TV provides a wide choice of programmes, some modelled on Western formats, some unique to Russia. Documentaries have been

RUSSIA'S RAILWAY GAZETTE

Although those in charge at the old Soviet mouthpiece *Izvestiya* may challenge it, *Gudok* claims to be the longest consistently published daily newspaper in Russia. *Gudok* – which means signal and also denotes the whistle sound of trains – has been in business since December 1917. The importance of a newspaper for the railway workers was instantly recognised by Vladimir Ilych Lenin and the Bolsheviks who knew the only way they could gain a grip on such a huge country would be to control the railways.

Still partly owned by Russian Railways and the trade union of railway workers, the broadsheet had writers of the calibre of Mikhail Bugakov (author of *The Master and Margarita*) working for it in the 1920s and 1930s. In today's competitive media market, *Gudok* takes a populist approach to news coverage. You should be able to find it – only available in Cyrillic – on sale at stations across the country.

especially good in the last years, and the national channel Kultura, dedicated entirely to arts and culture, is always worth a look. RenTV, a channel owned by the state power grid, has news coverage with a bit more bite.

See also p296.

Religion

The English website of the Russian Orthodox Church, containing details of its history and current practices, can be found at www.mospat.ru.

Since the end of the atheist Soviet Union, religion has made an incredible comeback in Russia, and in particular the Russian Orthodox Church (Russkaya Pravoslavnaya Tserkov). Since 1997 the Russian Orthodox Church has been legally recognised as the leading faith, but the Russian constitution enshrines religious freedom so the Church respects Islam (the country's second-largest religion with up to 20 million practitioners), Judaism, Buddhism and the nation's myriad animist religions.

Along the Trans-Siberian route you'll have chances to encounter many of these religions in buildings ranging from St Petersburg's **Grand Choral Synagogue** (☎ 713 8186; Lermontovsky pr 2; 🕒 11am-3pm Mon-Wed, 11am-2pm Thu & Fri, services 10am Sat; Ⓜ Sadovaya or Sennaya Ploshchad) to Kazan's Kul Sharif Mosque (p144) and the Buddhist *datsans* (temples) near Ulan-Ude (p217) and Chita (p222) in Siberia. Most often, though, it will be the Russian Orthodox Churches, many with soaring onion-dome cupolas, that will leave the most vivid impression.

Russian Orthodoxy is highly traditional, and the atmosphere inside a church is formal and solemn. Churches have no seats, no music (only melodic chanting) and many icons (see p48), before which people will often be seen praying, lighting candles and even kissing the ground.

The Virgin Mary (*Bogomater;* Mother of God) is greatly honoured. The language of the liturgy is 'Church Slavonic', the old Bulgarian dialect into which the Bible was first translated for Slavs. Paskha (Easter) is the focus of the Church year, with festive midnight services launching Easter Day.

In most churches, Divine Liturgy (Bozhestvennaya Liturgia), lasting about two hours, is held at 8am, 9am or 10am Monday to Saturday, and usually at 7am and 10am on Sunday and festival days. Most churches also hold services at 5pm or 6pm daily.

Arts

Much of Russia's enormous contribution to world culture in most domains of the arts has been since the 19th century.

MUSIC, BALLET & OPERA

Many visitors will want to see a Russian ballet or opera performance at either Moscow's famous Bolshoi (p118), or St Petersburg's Mariinsky (p92), home of the Kirov Ballet. Ballet and opera are generally performed at the same venues, which are often architectural masterpieces in themselves. The ballerinas in Novosibirsk may not be as fleet-footed, and the operas in Ulan-Ude may be in Buryat, but tickets can be remarkably good value compared with what you'll pay in Moscow or St Petersburg.

CHURCH-GOING DOS & DON'TS

As a rule, working churches are open to one and all, but as a visitor take care not to disturb any devotions or to offend sensibilities. On entering a church men bare their heads, while women usually cover their heads. Women visitors can often get away without covering their heads, but miniskirts are unwelcome and even trousers on women sometimes attract disapproval. Hands in pockets, or crossed arms or legs, may attract frowns. Photography at services is generally not welcome; if in doubt, you should ask permission first.

The roots of Russian music lie in folk song and dance and Orthodox Church chants. Mikhail Glinka (1804–57), in operas like *A Life for the Tsar* and *Ruslan and Lyudmila,* was the first to merge these with Western forms. Modest Mussorgsky (1839–81), Nikolai Rimsky-Korsakov (1844–1908) and Alexander Borodin (1833–87) continued to explore and develop Slav roots.

Natasha's Dance: A Cultural History of Russia by Orlando Figes is a fascinating book that offers plenty of colourful anecdotes about great Russian writers, artists, composers and architects.

Pyotr Tchaikovsky (1840–93) also used folk motifs but was closer to the Western tradition. His *1812 Overture,* his ballets *Swan Lake* and *The Nutcracker,* and his opera *Eugene Onegin* are still among the world's most popular works. Sergei Rachmaninov (1873–1943), Igor Stravinsky (1882–1971) and Dmitry Shostakovich (1906–75) are other influential composers of the 20th century.

Russian music is not all about classical composers. Ever since the Beatles broke through the Iron Curtain of the 1960s, Russians both young and old have been keen to sign up for the pop revolution. By the 1970s and 1980s punk and heavy metal were influencing local groups such as Akvarium, DDT and Nautilus Pompilius. The god of Russian rock, though, was Viktor Tsoy, lead singer of the group Kino. His early death in a 1990 car crash ensured his legendary status; his grave, at the Bogoslovskogo Cemetery in St Petersburg, has been turned into a shrine, much like Jim Morrison's in Paris. There's also the 'Tsoy Wall' on ul Arbat in Moscow, covered with Tsoy-related graffiti. Russia's doyenne of pop is Alla Pugacheva who's still belting the hits out in her 50s. Among current artists to listen out for are Leningrad, an entertaining group of rockers from St Petersburg, as well as the singer Zemfira, and progressive rock group Mumiy Troll.

LITERATURE

Russia's equivalent of Shakespeare is Alexander Pushkin (1799–1837); he's revered as the father of Russian literature and you'll find many Russians who can recite some of his verses, usually from his most famous work, *Yevgeny Onegin*. Mikhail Lermontov (1814–41) is another major figure, who like Pushkin died young in a duel.

Nikolai Gogol (1809–52) was a master of romantic realism; his classics include the mordantly satiric *Dead Souls* and *The Inspector General*. Fyodor Dostoevsky (1821–81) is internationally known for the St Petersburg–based *Crime and Punishment, The Idiot* and *The Brothers Karamazov*. His four years of hard labour in a camp near Omsk formed the basis of *The House of the Dead*. Other giants of literature include Leo Tolstoy (1828–1910; *War and Peace* and *Anna Karenina*) and the playwright Anton Chekhov (1860–1904). Boris Pasternak (1890–1960) wrote *Dr Zhivago,* which was filmed on an epic scale by David Lean, and possibly did more than any work to influence Western perceptions of Siberia. It's a richly philosophical, epic novel offering personal insights into the revolution and Russian civil war. Pasternak had to smuggle it into Britain in 1958 to get it published.

Russian publishing is currently booming with the traditional Russian love of books as strong as ever. One of the most popular novelists is Boris Akunin whose series of historical detective novels featuring the foppish Russian Sherlock Holmes, Erast Fandorin, include *The Winter Queen,* and *Turkish Gambit,* made into a recent hit Russian movie. The award-winning novels of Andrei Makine, born in the Russian Far East but long

based in France where he has won the country's top two literary awards, are also worth discovering, especially *A Hero's Daughter,* which charts the impact of the Soviet Union on a family from WWII to the 1990s. His *Once Upon the River of Love* is about life in a small village near the Trans-Siberian Railway.

VISUAL ARTS

Up until the 17th century religious icons were Russia's key art form, though clearly they were conceived as religious artefacts and only in the 20th century did they really come to be seen as 'works of art'.

In the 18th century, Peter the Great encouraged Western trends in Russian art, which led to the Peredvizhniki (Wanderers) movement in the following century. The movement gained its name from the touring exhibitions with which it widened its audience, and its leading figures included Vasily Surikov, infamous for painting vivid Russian historical scenes; Nikolai Ghe, who depicted biblical and historical scenes; and Ilya Repin, perhaps the best-loved of all Russian artists. The best places to view works by these artists are St Petersburg's Russian Museum (p85) and Moscow's Tretyakov Gallery (p110).

An excellent website devoted to Russian architecture is http://archi.ru/english/, which has an index of the country's key buildings.

At the start of the 20th century, Russian artists dabbled in impressionism, Art Nouveau and symbolism as well as a home-grown avant-garde futurist movement, which in turn helped Western art go head over heels. Notable artists of this period include Natalia Goncharova, Vasily Kandinsky and Kasimir Malevich. Socialist realism was the driving force during the early and mid-Soviet periods when art had to serve the state's political purposes.

Artists are now freer than they ever were to depict all aspects of Russian life. Although many contemporary painters of note have left Russia for the riches of the West, the country is still churning out promising young artists; for a review of some of the most interesting go to www.waytorussia.net/whatisrussia/art.html. The **Moscow Biennale of Contemporary Art** (http://moscowbiennale.ru/en), a month-long festival organised and partly funded by Russia's Ministry of Culture, aims to establish the capital as an international centre for contemporary art.

CINEMA

From Sergei Eisenstein's *Battleship Potemkin* (1925) right through to Alexey German's *My Friend Ivan Lapshin* (1982), Soviet cinema excelled in producing classic movies. Eisenstein's *Alexander Nevsky* (1938) contains one of cinema's great battle scenes. Mikhail Kalatozov's *The Cranes are Flying* (1957) – a love story set during WWII – was awarded the Palme d'Or at Cannes in 1958. Of later Soviet directors, the dominant figure was Andrei Tarkovsky, whose films include *Andrei Rublyov* (1966) and *Solaris* (1972), the Russian answer to *2001: A Space Odyssey*.

Nikita Mikhalkov's *Burnt by the Sun* won the Oscar for Best Foreign Film in 1994 but, at that time, Russian film production was suffering as state funding dried up and audiences stayed away from cinemas. By the end of the decade the local industry was back on track with hits such as Alexey Balabanov's gangster drama *Brother* (1997), Alexander Sokurov's *Molokh* (1999) and the ambitious *Russian Ark* (2002) set in the Hermitage, and Andrei Zvyaginstev's moody thriller *The Return* (2003). A recent success is Timur Bekmambetov's sci-fi fantasy thriller *Night Watch* (2004).

ARCHITECTURE IN SIBERIA

Although you'll find traditional Russian wooden architecture across European Russia, Siberia has the best examples. Many villages, relatively accessible around Lake Baikal and in the Barguzin Valley, retain whole streets of *izba* (log houses) whose main decorative features are carved, brightly painted window frames. This construction style was taken further in Siberian city town houses, where the carvings of eaves and window frames became so intricate that they're now known as 'wooden lace'. The classic place to see this is Tomsk (p179), although some great individual examples have survived in Krasnoyarsk, Irkutsk (p194), Tobolsk (p160) and Tyumen (p156).

Before the Russians colonised Siberia, native Siberians were mostly nomadic. Their traditional dwellings fall into three main types: tepee-style cones of poles covered with skins or strips of bark (the Evenki *chum*); hexagonal or cylindrical frameworks of poles covered with brush and earth (the Altai *ail,* or similar western Buryatian equivalents); and round, felt-covered tent houses (the yurts of nomadic Tuvan and Kazakh herders). Examples of all these dwellings can be found in open-air museums, including near Bratsk (p243), Listvyanka and Ulan-Ude (p215).

CHINA

The National Psyche

Despite having experienced tremendous social upheaval over the past century, and having to cope with current political and economic uncertainties, the Chinese remain an energetic and optimistic people, excited about the rapid modernisation taking place in their country. With the 2008 Olympic bandwagon in full swing, the Chinese are eager to introduce their long-standing cultural traditions to the world and be accepted as a modern, progressive nation.

The concept of 'face' is important: it means not behaving in a way that would embarrass someone and cause them to lose status in front of their peers. One sure way for foreigners to make someone lose face in China is to lose their temper in public. Not only will the person targeted lose face, the foreigner loses face as well for being weak and unable to control their emotions. The Chinese pride themselves on self-control and when flustered or embarrassed will often giggle or give an evasive response, rather than deal with the situation directly.

The website http://chineseculture.about.com is a good resource on culture and society in China with links to a variety of topics including food, holidays and martial arts.

Despite language barriers, you'll regularly meet locals who are eager to strike up a conversation and, for many, practise their English. In some rural areas, foreigners remain an exotic curiosity and will be greeted with stares, giggles and a chorus of 'hellos' that can irritate even the most thick-skinned of travellers. Getting angry doesn't help – it's likely your Chinese audience will have no idea why you are getting angry and fits of temper will inevitably create more excitement and draw larger crowds.

The lack of privacy is perhaps one of the most disconcerting aspects of a visit to China. Most Chinese grow up in small apartments in crowded conditions and are not accustomed to Western standards of privacy. This applies to trains, buses, tourist sites and even toilets.

Lifestyle

Chinese culture is traditionally centred on the family. In past Chinese society, the family provided support for every family member, including livelihood and long-term security. Extended family remains exceedingly important, with grandparents commonly acting as caretakers for grandchildren and with adult children working and financially supporting their ageing parents.

The end of cradle-to-grave welfare (the 'iron rice bowl') has brought increasing pressure on families who struggle to meet the rising costs of health care and education. Economic pressures have had an impact on

CHINESE ETIQUETTE DOS & DON'TS

- When beckoning to someone, wave them over to you with your palm down, motioning to yourself.
- If someone gives a gift, put it aside to open later to avoid appearing greedy.
- Always take off your shoes when entering a Chinese home.
- When meeting a Chinese family, greet the eldest person first, as a sign of respect.
- Always present things to people with both hands, showing that what you are offering is the fullest extent of yourself.

many young Chinese who are putting off marriage or having children until they've acquired enough money to ensure their financial security. It's estimated that today 14% of Chinese urban households consist of a single adult, or a childless couple who both work.

The rapid development of the 1990s has raised the standard of living for many Chinese, who now face a dazzling array of consumer choice and experience a lifestyle very different from earlier generations. Unfortunately, recent educational and economic opportunities are only available to a small segment of the population. The majority of Chinese live in the countryside, shut off from the benefits of China's economic reforms.

The growing gap between China's rich and poor is one of the worst in the world. The rural communities in inland China are the most poverty stricken, but those on the investment-laden east coast fare better. Farmers who can least afford it are expected to pay for their own health care and the education of their children. Many rural families have been forced to move to the cities, where they often find low-paying jobs in unsafe conditions. The government has promised to address these devastating trends, but few incentives have been put in place.

Red Azalea by Anchee Min is a moving story of a young woman caught up in the horrors of the Cultural Revolution.

While all of this sounds pretty bleak, development has also had some positive effects. With an increasingly open society, and with more exposure to the outside world, the Chinese are finding new forms of self-expression that were previously frowned upon by the communist authorities. Artists and writers are freeing themselves from earlier political restraints, contributing to a burgeoning literary and art scene that has been stifled for many years. Censorship is still common, though what defines something as 'taboo' or 'off limits' can be arbitrary.

Population

China is home to 56 ethnic groups, with Han Chinese making up 92% of the population. China's other ethnic groups are usually referred to as 'national minorities'. One of the largest minority groups is Mongolian, found in the Inner Mongolia region in the north of the country, bordering Mongolia proper.

China faces enormous population pressures, despite comprehensive programs to curb its growth. Over 40.5% of China's population live in urban centres, putting great pressure on land and water resources. It's estimated that China's total population will continue to grow at a rate of eight to 10 million each year and even with population programs such as the one-child policy, experts claim that China needs at least 30 more years to achieve zero population growth. The unbalanced gender ratio (117 boys to every 100 girls) and a rapidly ageing population are serious problems that the authorities are trying to address.

Media

All media is strictly controlled and censored. China's largest-circulation Chinese-language daily is the *People's Daily*. It has an English-language edition on www.english.peopledaily.com.cn.

Chinese Central TV (CCTV) has an English-language channel, CCTV9. CCTV4 also has some English programmes. Your hotel may have ESPN, Star Sports, CNN or BBC News 24. See also p296.

Religion

Chinese religion has been influenced by three streams of human thought: Taoism, Confucianism and Buddhism. All three have been inextricably entwined in popular Chinese religion along with ancient animist beliefs. The founders of Taoism, Confucianism and Buddhism have been deified. The Chinese worship them and their disciples as fervently as they worship their own ancestors and a pantheon of gods and spirits.

The Chinese communist government professes atheism. It considers religion to be base superstition, a remnant of old China used by the ruling classes to keep power. Nevertheless, in an effort to improve relations with the Muslim, Buddhist and Lamaist minorities, in 1982 the Chinese government amended its constitution to allow freedom of religion. However, only atheists are permitted to be members of the Chinese Communist Party (CCP). Since almost all of China's 55 minority groups adhere to one religion or another, this rule precludes most of them from becoming party members.

Muslims are believed to be the largest identifiable religious group still active in China today, numbering perhaps 2% to 3% of the nation's population. The government has not published official figures of the number of Buddhists – hardly surprising given the ideological battle it has been waging with Tibetan Buddhists, who have been fighting for decades to preserve their culture if not their country. There are around three million Catholics and four million Protestants. It's impossible to determine the number of Taoists, but the number of Taoist priests is very small.

'The Chinese communist government professes atheism'

Traditional Chinese religious beliefs took a battering during the Cultural Revolution when monasteries were disbanded, temples were destroyed and the monks were sometimes killed or sent to the fields to labour. Since Mao's death, the Chinese government allowed many temples (sometimes with their own contingent of monks and novices) to reopen as active places of worship. All religious activity is firmly under state control and many of the monks are caretakers within renovated shells of monasteries, which serve principally as tourist attractions and are pale shadows of their former selves.

Arts

With its long, unbroken history and culture, China has made one of the greatest artistic contributions to humankind. Sadly, much of China's ancient art treasures have been destroyed in times of civil war or dispersed by invasion or natural calamity. Many of China's remaining great paintings, ceramics, jade and other works of art were rescued by exile beyond the mainland – in Taiwan, Singapore, Hong Kong and elsewhere. Fortunately since the early 1970s a great deal of work has been done to restore what was destroyed in the Cultural Revolution.

China today has a flourishing contemporary art scene, with private galleries competing with government-run museums and exhibition halls. Chinese artists are increasingly catching the attention of the international art world and joint exhibitions with European or American artists are now

CHINESE OPERA

Chinese opera has been in existence formally since the northern Song dynasty (AD 960), developing out of China's long balladic tradition. Performances were put on by travelling entertainers, often families, in teahouses frequented by China's working classes. Performances were drawn from popular legends and folklore. Over 300 different types of opera developed throughout the country, with Beijing opera being officially recognised in 1790, when performances were staged for the imperial family.

Chinese opera is fascinating for its use of make-up, acrobatics and elaborate costumes. Face painting derives from the early use of masks worn by players and each colour suggests the personality and attributes that define a character. Chinese audiences can tell instantly the personality of characters by their painted faces. In addition, the status of a character is suggested by the size of headdress worn – the more elaborate, the more significant the character. The four major roles in Chinese opera are the female role, the male role, the 'painted-face' role (for gods and warriors) and the clown.

common. The second **Beijing Biennale** (www.bjbiennale.com.cn) held in September 2005 included 500 works from over 60 different countries. In the capital you'll also have the chance to see the traditional performance art of Chinese Opera (see above).

Along the Trans-Manchurian route the architecture stands out from the rest of China, primarily as a result of foreign influences in the region. At the turn of the 20th century, much of Manchuria was occupied – either economically or militarily – by Russia, Japan and various European powers, all of whom left their mark on the cities in this region. The best example is Tianjin, which contains quarters once dominated by Austro-Hungarians, Belgians, Germans, Italians and Japanese. In Daoliqu (p275), the oldest part of Harbin, onion domes and ornamental façades reveal the city's Russian roots.

MONGOLIA

The National Psyche

The nomadic life of the people, the timelessness of the land and the delicate relationship with the earth and its resources have all had a profound effect on the Mongolian character. These factors have made Mongolians humble, adaptable, unfettered by stringent protocol, good-humoured and uncannily stoic. You may well wonder if these are the same people that for centuries were vilified in the West as the 'scourge of God'. Indeed, compared with Russians and Chinese you're likely to find Mongolians the most easily approachable in terms of attitudes.

The great emptiness of their landscape has seemingly kindled a strong curiosity of outsiders. But, more significantly, it has also made hospitality a matter of sheer necessity rather than a chore or social obligation. Hospitality is something that is, quite simply, crucial to survival. In effect, every home on the steppes serves as a hotel, restaurant, pub, repair shop and information centre. This hospitality extends readily to strangers and it is usually given without fanfare or excitement.

The Mongolian *ger* (traditional, circular felt tent) plays a vital role in shaping both the Mongolian character and family life. Its small confines compels families to interact with one another, to share everything and to work together, tightening relationships between relatives. It promotes patience, makes inhibitions fade away and prevents privacy. It also hardens the sensibilities: *ger* dwellers must fetch their own water and fuel, difficult tasks especially in the dead of winter.

Lifestyle

Half the population of Mongolia lives permanently in urban areas, while the other half are either truly nomadic, or seminomadic, living in villages in the winter and grazing their animals on the steppes during the rest of the year. Urban Mongolians typically live in Russian-style apartment blocks while the nomads live in the one-room, felt *ger*.

Usually equipped with traditional furnishings that are painted bright orange with fanciful designs, *gers* are set out in a like manner with three beds around the perimeter, a chest covered with Buddhist relics at the back wall and a low table for dining. Everything revolves around a central hearth, with the women's side to the right and the men's to the left. The head of the household sits at the northern end of the *ger* with the most honoured guest to the right. The area near the door is the place of lowest rank and the domain of children.

Ovoos (large piles of rocks on Mongolian mountain passes) are repositories of offerings for local spirits. Walk around an *ovoo* clockwise three times, toss an offering onto the pile (another rock should suffice) and make a wish.

Although one-third of Mongolians live well below the poverty line (less than US$30 per month), this does not necessarily mean that people are going hungry. The reason is the strong family network. One family member with a decent job has the responsibility to support their family and distribute their wealth among siblings. Approximately 100,000 Mongolians live and work abroad, about 8% of the workforce, and many send money home to their families. In Ulaanbaatar, an average salary is US$100 per month and steadily climbing.

Since the late 1990s there has been a major shift to urban areas, especially Ulaanbaatar, which is bursting at the seams. With the exception of a handful of places benefiting by either mining or tourism, rural areas languish in neglect.

Population

The great majority (about 86%) of Mongolians are Khalkh Mongolians (*khalkh* means 'shield'). The other sizable ethnic group, the Kazakhs, make up about 6% (110,000) of the population and live in western Mongolia. The remaining 8% of the population are ethnic minority groups, including some 47,500 ethnic Buryats who live along the border with Russia. Population growth is at an all-time low, having fallen from 2.4% to 1.4% over the past 15 years. The government is planning subsidies for newlyweds and newborns.

MONGOLIAN ETIQUETTE DOS & DON'TS

When meeting Mongolians or visiting a *ger* (yurt), note the following customs and habits:

- Avoid walking in front of an older person, or turning your back to the altar or religious objects (except when leaving).
- If someone offers you their snuff bottle, accept it with your right hand. If you don't take the snuff, at least sniff the top part of the bottle.
- Try to keep *ger* visits to less than two hours to avoid interrupting the family's work.
- Don't point a knife in any way at anyone; when passing a knife to someone ensure that the handle is facing the recipient; and use the knife to cut towards you, not away.
- Don't point your feet at the hearth, at the altar or at another person. Sleep with your feet pointing towards the door.
- If you have stepped on anyone, or kicked their feet, immediately shake their hand.
- Don't stand on, or lean over, the threshold, or lean against a support column.
- Don't touch another person's hat.

THE GREAT MONGOLIAN HERO

Although generally reviled as a bloodthirsty barbarian in the West, Chinggis (Genghis) Khaan (c AD 1167–1227) is a national hero in Mongolia. His legacy is very much a modern-day rallying point for Mongolians who are proud of what their fearless ancestor achieved. Chinggis' face adorns money, stamps, even vodka, and an Ulaanbaatar hotel, rock band and brewery are named after him.

Having been voted 'Man of the Millennium' by *Time* magazine, the tide of opinion on the great Khaan is changing. Adding weight to the argument that he was as much a skilful diplomat as brutal warrior are books such as *Genghis Khan and the Making of the Modern World* by Jack Weatherford. Trans-Mongolian travellers might also want to ponder how he practically pioneered travel from China to the eastern edge of Europe way back in the 13th century.

Media

Mongolia's media is pretty free to express antigovernment opinions compared with that in Russia and certainly China. Major daily newspapers in Mongolia include *Ardiin Erkh* (People's Right), *Zunny Medee* (Century News), *Odriin Sonin* (Daily News) and *Önöödör* (Today).

All the TV stations have political allies; Channel 25 favours the democrats, Channel 9 prefers the Mongolian People's Revolutionary Party (MPRP) and the others go with whomever is in power. MNTV has a 10-minute news bulletin in English at 10pm on Monday, Wednesday and Friday. Local TV stations don't start broadcasting until the afternoon and switch off around 11pm.

See also p296.

Religion

Around 80% of Mongolians claim to be Buddhist of the Mahayana school, as practised in Tibet. Some 5%, mainly Kazakhs living in the west of the country, follow Islam. Approximately 5% claim to be Christians, Mongolia's fastest-growing religion, and around 10% are atheist (the creed of the former communist state). In northern Mongolia Buddhism is mixed with elements of shamanism. Freedom of religion has only opened up again since the fall of communism in 1990 and there is growing competition between Buddhism and Christianity in both urban and rural areas.

Developed by the Arts Council of Mongolia, the website www.mongol-art.mn has extensive information on dance, music, film, theatre and art.

Arts

From prehistoric oral epics to the latest movie from MongolKino film studios in Ulaanbaatar, the many arts of Mongolia convey the flavour of nomadic life and the spirit of the land. Traditional Mongolian music, which can be heard at concerts in Ulaanbaatar, is usually played on a *morin khuur* (horsehead fiddle), a two-stringed vertical violin and a lute. These instruments are also used by some of Mongolia's popular rock bands, including Hurd and Chinggis Khaan.

There are also several unique traditional singing styles. The enigmatic *khöömii* – throat singing – has the remarkable effect of producing two notes simultaneously – one low growl and the other an ethereal whistling. Translated as 'long songs', *urtyn-duu* use long trills to relate traditional stories about love and the countryside.

Mongolia's best-known modern poet and playwright is Dashdorjiin Natsagdorj (1906–37), regarded as the founder of Mongolian literature. His dramatic nationalist poems and plays are still performed in Mongolian theatres today. There's also been a recent revival in Mongolian cinema with the brightest star being Byambasuren Davaa, who together with Luigi Falomi directed *The Weeping Camel* (2003), a moving documentary about a camel that rejects its offspring, and how the family that owns it attempts to reconcile their differences.

Much of Mongolia's visual arts is religious in nature. Religious scroll paintings, depicting deities and their enlightened qualities, can be found on family altars in many homes. Another traditional style of painting is *zurag* – landscape storytelling. These landscapes include intricate sketches depicting every aspect of Mongolian life. Balduugiyn Sharav (1869–1939) is Mongolia's best-known painter in this style. The sculptor Zanabazar (1635–1723) is one of Mongolia's most revered artists, as well as religious and political leaders. He is known primarily for his bronze cast statues, which are now on display in monasteries and museums around Ulaanbaatar.

Environment

Part of the Trans-Siberian Railway's attraction for travellers with even the slightest interest in natural history is the variety of terrain along the route and the abundance of wildlife it holds. Much of the region's wildlife is naturally shy, hidden from view or too distant to be observed well. Nevertheless, it's still possible to see interesting wildlife and vegetation from the train compartment, sometimes very close to the track. There are also frequent opportunities to get off and explore the countryside at leisure and in more detail, the most popular stop being World Heritage–listed Lake Baikal.

The Wild Russia website (www.wild-russia.org) belongs to the US-based Center for Russian Nature Conservation, which assists and promotes nature conservation across Russia.

THE LAND

Russia, China and Mongolia – the three nations linked by the Trans-Siberian routes – cover over a quarter of the globe in total, with Russia being the world's largest country, China the fourth biggest and Mongolia the eighteenth biggest. The bulk of the railway traverses the geographical entity known as Inner Eurasia, an immense territory bounded by Europe in the west, the Middle East and India in the south, and China in the east. Its physical environment has shaped its social evolution from prehistoric times to the present day. Most notably, the region remained only sparsely populated for centuries (and it's hardly overpopulated these days!).

Inner Eurasia's remote interior location, far away from the oceans and moisture-bearing winds, fosters a climate of harsh extremes. When global warming forced back the great ice sheets that covered the continent more than 10,000 years ago, it resulted in four distinct ecological zones in inner Eurasia: tundra, taiga, steppe and desert. The tundra includes the upper reaches of Siberia, extending to the Arctic coast. Under snow for nearly two-thirds of the year, the ground remains in a frozen condition of permafrost, even in summer. The tundra supports little vegetation and fauna, though the wintry northern coast is home to sea mammals.

The Russian taiga is a major carbon sink, removing an estimated 500 million tonnes of carbon from the atmosphere each year.

South of the tundra, the taiga comprises a dense forest belt that runs from Scandinavia across Siberia to the Pacific coast. The taiga's soil is poor for farming, but its woods and rivers were rich in fauna until relatively recently. Below the taiga lies the steppe, which spans the continent from the plains north of the Black Sea across Central Asia through Mongolia to the western edge of China. This gently rolling, semiarid grassland is unsuitable for cultivation, but it provides sufficient vegetation to support large herds of grazing animals. To the south, the steppe becomes arid and gives way to the deserts of central and eastern Asia. The Gobi Desert in Mongolia and China retains a thin grass cover that sustains some of the hardier herbivores.

Six of the world's 20 longest rivers are in Russia. Forming the China-Russia border the east-flowing Amur (4416km) is nominally the longest, along with the Lena (4400km), Yenisey (4090km), Irtysh (4245km) and Ob (3680km), all of which flow north across Siberia ending up in the Arctic Ocean. In fact, if one was to take the longest stretch, including tributaries (as is frequently done with the Mississippi-Missouri River System in North America), the Ob-Irtysh would clock up 5410km and the Angara-Yenisey a phenomenal 5550km. The latter might, in fact, be the world's longest river if you were to include Lake Baikal and the Selenga River (992km), which directly feed into it.

Beautiful Lake Baikal itself is the world's deepest lake, holding nearly one-fifth of all the world's unfrozen fresh water. Europe's longest river, the Volga (3690km), rises northwest of Moscow and flows via Kazan and Astrakhan into the Caspian Sea, the world's largest lake (371,800 sq km). Lake Onega (9600 sq km) and Lake Ladoga (18,390 sq km), both northeast of St Petersburg, are the biggest lakes in Europe.

WILDLIFE

The extent and variety of habitat in Russia, China and Mongolia support a huge range of species; so many, in fact, that we can only sketch an outline of the rich fauna and flora here.

Mongolia's Wild Heritage by Christopher Finch, written in collaboration with the Mongolian Ministry of Nature & Environment, is an outstanding book on Mongolia's fragile ecology, along with excellent photos.

Animals

The wild animals living in the area bordering the railway are amazingly varied, recalling what Western Europe was like before civilisation took its toll. What follows is a selection of the most characteristic (if not always the most easily observable) species.

BIRDS

Birds are numerous and seen more often than other animal species on the journey. However, many birds are shy and secretive, have restricted habitat preferences or are absent in winter. Following is a representative selection of those that might be encountered or are typical of the area.

Geese you can spot include the greylag goose *(Anser anser),* the largest of the 'grey' geese and familiar as the ancestor of the domestic farmyard goose; and the bean goose *(A. fabalis),* smaller and darker than the greylag. Breeds of duck include the common mallard *(Anas platyrhynchos),* the less common Baikal teal *(A. Formosa)* and the falcated teal *(A. falcate)*.

Coots *(Fulica atra)* prefer the more open areas of lakes, so are easily visible. The common or mew gull *(Larus canus)* is widespread throughout the region, particularly on the larger lakes and rivers, as is the black-beaded gull *(L. ridibundus)*. The little gull *(L. minutus),* the world's smallest at only 26cm long, is usually seen gliding and dipping over lakes picking mosquitoes off the surface in summer.

The common tern *(Sterna hirundo)* may be seen hovering over lakes and wide rivers before plunging in to catch fish. Not as common, despite its name, is the common crane *(Grus grus)*. In autumn, large flocks set off on migration with loud bugling calls, returning the following spring to breed.

China Birding (www.cnbirds.com) can fill you in on overwinter sites, migration routes and the geographical distribution of your feathered friends in China.

The grey heron *(Ardea cinerea)* is the only waterbird likely to be seen near the train line. Tall and grey, with a long shaggy crest, it will be seen wading cautiously through shallow water or standing hunched on the shores of lakes and rivers. The lapwing *(Vanellus vanellus)* is a widespread, attractive wading bird, easily identified by its wispy crest and, in flight, very rounded wings. The little ringed plover *(Charadrius dubius),* a member of the same wader family, is much smaller, sandy brown above, white below with a black collar. The dainty yellow wagtail *(Motacilla flava)* is a summer visitor to marshes, water meadows and lake edges throughout the region. The male is mainly yellowish, the female more buffish.

The magnificent white-tailed eagle *(Haliaeetus albicilla)* is easily identified by its huge size, broad wings and short wedge-shaped tail. The equally impressive golden eagle *(Aquila chrysaetos)* is slightly smaller, with a longer tail and, in the adults, a golden brown head and hind neck.

Useful books for bird spotters are *A Field Guide to the Birds of Russia* by VE Flint et al and the Collins Field Guide *Birds of Russia* by Algirdas Knystautas.

The common buzzard *(Buteo buteo)* is one of the most numerous and often-seen raptors. The general shape is not dissimilar to an eagle, but a buzzard is considerably smaller, with a less protruding head. With more angled and longer wings than a buzzard, the black kite *(Milvus migrans)* is another soaring raptor. Its most distinctive feature is its long, shallowly forked tail.

The peregrine *(Falco peregrinus)* rises above its intended victim – a flying duck or pigeon perhaps – and with lightning speed (over 150km/h) strikes a deadly blow with its outstretched talons. Like all falcons, the peregrine has rather pointed wings in comparison with those of eagles, buzzards and hawks.

The goshawk *(Accipiter gentiles)* is the largest of the hawks. Capable of catching prey up to the size of a goose (hence its name), surprise is the key to its hunting success; it glides low to the ground, swerving in and out of the trees, hoping to catch its victim unawares. A smaller and more common version of the goshawk is the sparrowhawk *(A. nisus)*.

CANINE FAMILY

Although largely hunted to extinction in Europe, wolves *(Canis lupus)* remain a significant and important part of the ecosystem in Siberia and Mongolia. You're much more likely to hear the unmistakable distant howling than see them, though. (The howl, incidentally, is a contact call to assemble or keep the pack together.) Resembling an Alsatian dog, the wolf is typically greyer with a broader head, smaller ears and pale yellow eyes.

In wolf society there is a strong sense of responsibility, obedience, cooperation and sharing. The species also performs a useful function in keeping populations of other animals under control and should only be destroyed when its activities are in direct conflict with raising domestic animals.

A member of the same family as the wolf, the fox *(Vulpes vulpes)* is much more familiar and easily observed. Apart from being a useful scavenger, an efficient predator of rats and mice, and an aesthetically attractive animal in its own right, the fox is also faithful to the same mate for life.

CERVINE FAMILY

Among the largest and most easily spotted of animals along the route are deer. The roe deer *(Capreolus capreolus)* is the one you'll most likely see out at the edge of the forest and in the fields. Its small size and antlers also enable it to move quickly through dense undergrowth or conceal itself.

The website www.wwfchina.org has details of the WWF's projects for endangered and protected animals in China.

The impressive moose or elk *(Alces alces)*, the largest of the deer family, are common, particularly in the wetter and more open parts of the forest. The males sport antlers up to 2m wide and can stand over 2m high at the shoulders. It's unlikely that you'll see the timid red or maral deer *(Cervus elaphus)*. The sturdy stag carries impressive antlers, shed annually in early spring. In the late summer he sheds the velvety skin that covers the new antlers.

Even rarer is the musk deer *(Moschus moschiferus)*, long hunted for the pungent secretion produced in their abdominal glands and widely used in expensive perfumes. The males don't grow antlers; instead, both sexes have tusks (actually extended upper canines) protruding about 6cm in males, less in females. These are used with deadly effect in the rutting season in December and January.

FELINE FAMILY

The lynx *(Felis lynx)* is rarely seen, but easily identified by the tufted ears and short black-ringed tail. This solitary, nocturnal animal's much-prized coat of fur is reddish or greyish in background colour, more or less covered with indistinct dark spots.

The Siberian tiger *(Panthera tigris altaica)*, also known as the Amur or Manchurian tiger, used to occur throughout the region's vast forests, but its valuable fur and taste for domestic animals and humans has led to its demise over virtually all of its former territory. See p275 for more details on these magnificent animals and how you can get an up-close look at them in Harbin's Siberian Tiger Park.

Heavy on photographs, *Baikal, Sacred Sea of Siberia* is a pictorial tribute to the great lake with text by travel writer and novelist Peter Matthiessen.

MUSTELID FAMILY

Mustelids include otters *(Lutra lutra)*, stoats and weasels, all of which occur widely in the Trans-Siberian region. Otters, being nocturnal hunters, are best spotted in early morning or dusk on land, where they always eat their fish (or other prey). Well adapted to the bitterly cold conditions of the Siberian winter otters have no need to hibernate or migrate, so are active and visible year-round.

THE ECOLOGY OF LAKE BAIKAL

Lake Baikal's wildlife is unique. Thanks to warm water entering from vents in the bottom of the lake, and the filtering action of countless millions of minute crustaceans called epishura, the water is exceptionally clear and pure – although unfortunately less so now than formerly (see p63).

Over 1000 species of plants and animals live in the lake (nearly all endemic), including over 200 of shrimp and 80 of flatworm; one of the latter is the world's largest and eats fish! Uniquely for a deep lake, life exists right down to the bottom.

The many kinds of fish include the endemic *omul*, Baikal's main commercial fish. A remarkable species, the *omul* is reputed to emit a shrill cry when caught. It spawns in the Selenga River, but its main food source is the endemic Baikal alga, *melosira*, which has declined drastically because of pollution.

The *golomyanka* – a pink, translucent oilfish with large pectoral fins – is endemic to Baikal. It's unusual in having no scales and being viviparous, giving birth to live young, about 2000 at a time. It is the lake's most common fish, although its numbers have been depleted by pollution. By day it lives in the deep, dark depths, rising at night to near the surface.

Golomyanka is the preferred food of the Baikal seal, or *nerpa (Phoca siberica)*, the world's only freshwater seal, with no relatives nearer than the ringed seal of the Arctic. *Nerpas* are attractive, gentle creatures with unusually large eyes set in round flat faces, enabling them to hunt down to at least 1500m below the surface – even at night. Despite their size (less than 1.5m, making them the world's smallest seal), they have particularly strong claws for forcing their way through winter ice and keeping their breathing holes open. Pups are born in late winter. At the top of the food chain, Baikal seals have been greatly affected by pollution and are still harvested by local people. However, their population hovers around the 50,000 mark.

There is plenty of other wildlife around the lake. The huge delta, nearly 40km wide, formed by the sediment brought down to the lake by the Selenga River, is a great attraction to wild fowl and wading birds. In summer such beautiful and rare species as the Asiatic dowitcher and white-winged black tern nest there, while in autumn vast numbers of waterfowl from the north use the mudflats and marshes to rest and feed on their migration south – a sort of international bird airport – while many overwinter there, too.

Vast numbers of caddis flies and other insects hatch and swarm on the lake in summer, providing a rich and vital food source for all kinds of wildlife, from fish to birds. Despite their lack of visual impact for the Trans-Siberian traveller, these tiny insects, along with the microscopic plant and animal organisms, form the base of the pyramid of wildlife that graces this unique area.

Glutton is the old name for the wolverine, which has an insatiable appetite. It will literally eat anything from minute plants, berries and insects to carrion and the largest species of deer, which it stalks and ambushes.

The largest of the mustelids, the wolverine *(Gulo gulo)* somewhat resembles a long brown badger in shape, but its fur is brown, with lighter patches on its head and flanks. Immensely strong, it can rip the head off its prey. Decapitated heads of animals as large as reindeer have been found high up in conifer trees! Like all fur-bearing animals it has suffered at the hands of trappers. However, this species has got its own back to some extent, as it is well known (and unpopular) for robbing traps.

The sable *(Martes zibellina)* is almost exclusively a Siberian animal. It is virtually confined to the vast stretches of forest east of the Yenisey River and notably in the forests around Lake Baikal. The sable's luxurious dark brown fur almost brought it to the brink of extinction as a result of relentless trapping. Now there are perhaps several thousand in the wild, counting those inside and outside national park areas around Baikal. Though still obtained by trapping and shooting wild animals, most sable furs now come from farmed animals.

RODENT FAMILY

The beaver *(castor fiber)* is the largest rodent in the northern hemisphere, growing up to a grand 1.3m in length and weighing up to 40kg. Exclusively vegetarian, its favourite food is the bark and branches of waterside trees. It stores branches and other vegetation for the winter in underwater chambers inside its lodge, where the young are also born. These lodges are wonderful feats of engineering, with an elaborate system of interconnected chambers and tunnels for different purposes, with ventilation shafts incorporated.

Though beavers are not frequently seen by the casual observer (nowadays they are rarer because they are being hunted for fur), their conspicuous dams and lodges are clear evidence of their presence along the stretches of river where they occur.

Other rodents, including muskrats, squirrels, chipmunks, rats, voles and mice, form an integral part of the ecosystem. On a massive scale, they replenish the soil through their regular burrowing and eating routines, and provide an indispensable food source for creatures higher up the food chain.

URSINE FAMILY

In Russian the brown bear *(Ursus arctos)* is called *medved,* reflecting the animal's love of *med* (honey). Unfortunately, bears are not usually held in high esteem by Russian hunters, who kill them even in winter, when specially trained dogs are used to scent out the lairs in which they hibernate. Despite this, and also the high mortality of the cubs who are dependent on their mothers for two or three years, brown bears still occur widely, if sparsely, in Siberia, with several distinguishable subgroups. It is easily the heaviest animal of the area, with males weighing up to 350kg and females up to 250kg. If you see one in the wild, you should stay well clear as they are highly dangerous.

Among Lake's Baikal's unique species of sponge is one that has been traditionally used to polish silverware.

Plants

The taiga is the habitat through which much of the railway passes in Siberia. In some places it is dominated by conifers, particularly Siberian pine *(Pinus sibirica),* in others by mixed conifer and deciduous trees, and in yet other places it's all deciduous. Silver firs, spruce, larch and birch often mingle with maple and aspen, while by the innumerable lakes, ponds and rivers willows and poplars dominate – in June and July the poplars' white fluffy seeds float everywhere like snow.

A particularly beautiful species of birch *(Betula dahurica)* with an unusual dark bark grows near Lake Baikal, while at the far eastern end of the journey, in Ussuriland, you will see the impressively tall white-barked elms *(Ulmus propingua)* and Manchurian firs *(Abies holophylla)* – the latter with pink, purple or orange-buff bark – as well as the more familiar cork, walnut and acacia trees. The almost subtropical climate here is quite different from the harsher conditions further west in Siberia, allowing a lush profusion of exotic flowers.

China is one of the Earth's main centres of origin for plants. It claims more than 17,300 species of endemic seed plants.

The leaf litter at the base of trees swarms with invertebrate life, which not only transforms dead vegetation into fertile humus, but also provides food for animals and birds. On the forest floor mosses, lichens, ferns and fungi thrive, including the colourful but deadly fly agaric *(Amanita muscaria)*. The dense leaf canopy above inhibits the growth of flowering plants and shrubs, but in more open areas and clearings it is a different picture; in such places flamboyant rhododendrons, azaleas, ryabina, spiraea, asters, daisies, gentians and vetches delight the eye in summer.

Though still extensive, much of the forest has been cleared for agricultural purposes or to sell for timber, so large tracts of cultivated fields and eroded scrubland where trees once stood are a common sight. There are also extensive but natural open treeless steppes. Of the many kinds of grass that grow wild here the most attractive are the aptly named feather grasses, which rise and ripple in the wind like the surface of the sea.

NATIONAL PARKS & NATURE RESERVES

Russia

Russia has 100 official *zapovedniki* (nature reserves) and 35 national parks. Along or close by the Trans-Siberian route you'll find several, including Russia's oldest protected reserve, the Barguzin National Reserve (p219) within the 269-sq-km Zabaikalsky National Park. These are areas set aside to protect fauna and flora, often habitats of endangered or unique species. Some reserves are open to visitors and, unlike in the old days when your ramblings were strictly controlled, today you can sometimes hire the staff to show you around.

Apart from the parks around Lake Baikal, also see p238 for details of the Sikhote-Alin Nature Reserve near Vladivostok and p187 for information on Krasnoyarsk's Stolby Nature Reserve. Also check out www.baikal.eastsib.ru/gbt/index_en.html or www.earthisland.org/project for details of volunteer programmes in the three national parks and four nature reserves surrounding Lake Baikal.

China

China has an incredibly diverse range of natural escapes scattered across the country. Since the first nature reserve was established in 1956, around 2000 more parks have joined the ranks, protecting about 14% of China's land area, and offering the traveller a wonderful variety of landscapes and diversity of wildlife. Many of the parks are intended for the preservation of endangered animals, while others protect sacred mountains.

But before you pack your hiking gear and binoculars, be prepared to share many of the more popular reserves with expanding commercial development. Tourism is generally welcomed into these reserves with open arms, meaning pricey hotels, more roads, gondolas, hawkers and busloads of tourists. With a little effort, you can often find a less beaten path to escape down, but don't expect utter tranquillity.

Along the Trans-Manchurian route bird-watchers should consider a visit to the Zhalong Nature Reserve (p278).

Mongolia

The 54 protected areas in Mongolia constitute a very impressive 13.5% of the country. The Ministry of Nature & Environment (MNE) in Mongolia classifies protected areas into four distinct categories. In order of importance:

National Parks Places of historical and educational interest; fishing and grazing by nomadic people is allowed and parts of the park are developed for ecotourism.

Natural & Historical Monuments Important places of historical and cultural interest; development is allowed within guidelines.

Natural Reserves Less important regions protecting rare species of flora and fauna, and archaeological sites; some development is allowed within certain guidelines.

Strictly Protected Areas Very fragile areas of great importance; hunting, logging and development are strictly prohibited, and there is no established human influence.

The strictly protected areas of Bogdkhan Uul, Great Gobi and Uvs Nuur Basin are biosphere reserves included in Unesco's **Man and Biosphere Programme** (www.unesco.org/mab).

To visit these parks – especially the strictly protected areas, national parks and some national monuments – you will need to obtain a permit. These are provided by the local Protected Areas Bureau (PAB) office, or from rangers at the entrances to the parks. The permits are little more than an entrance fee, but they are an important source of revenue for the maintenance of the parks. Entrance fees are set at T3000 per foreigner and T300 per Mongolian (although guides and drivers are often excluded).

Close to Ulaanbaatar, you'll find the Gorkhi-Terelj National Park (p268) and the Bogdkhan Uul Strictly Protected Area containing the temple Manzushir Khiid (p267). You'll also find the holy mountain Tsetseegun Uul (p268).

ENVIRONMENTAL ISSUES

Russia

Russia has the world's largest natural gas reserves, the second-largest coal reserves and the eighth-largest oil reserves – just as well, since it's the world's third-largest energy consumer.

Russia may have ratified the Kyoto Protocol in 2004, but the fact is that care for the environment has long been a very low priority in the eyes of the nation's rulers. Sadly, the Soviet Union's enthusiasm for rapid industrialisation has been matched only by its wilful ignorance of the often devastating environmental side effects, which are still very evident today.

Obsessed with fulfilling production plans, Siberian managers during the Soviet years showed little regard for the harmful practices of their factories. As a result, the major industrial areas in the Kuznets Basin, Irkutsk and Krasnoyarsk have since been declared environmental catastrophes, with irreparably damaged soil and water. Lake Baikal served as a receptacle for raw waste, discharged from a paper mill and towns along its shore.

See www.eia.doe.gov/emeu/cabs/russenv.html for a good overview of current environmental issues in Russia.

Environmental awareness in Russia is rising, but the booming economy is having its own detrimental effect. Higher standards of living have put more cars on the roads and substantially increased solid waste generation. The government is trying to improve its act and has passed sound environmental protection laws; enforcing these laws is another thing entirely.

RESPONSIBLE TRAVEL

As closely as some Russians, Chinese and Mongolians live with nature, they don't always respect it: littering and poaching are everyday pastimes. Responsible travellers will be appalled by the mess left in parts of the countryside and at how easily rubbish is thrown out of train windows. Accept that you're not going to change how people live, but that you might be able to make a small impression by your own thoughtful behaviour. To help preserve the natural environment consider the following tips while travelling:

- Don't litter and minimise waste by using minimal packaging.
- Refill your water bottle from the train's samovar and consider using purification tablets or iodine in tap water rather than relying on bottled water.
- Avoid buying items made from endangered species (eg exotic furs, caviar that isn't from legal sources).
- Support local enterprises, environmental groups and charities trying to improve these countries' environmental scorecard, such as the **Great Baikal Trail project** (www.earthisland.org/project) to construct a hiking trail around Lake Baikal, or **Ger to Ger** (www.gertoger.com), a project working with nomadic families to help preserve Mongolia's environment.

LAKE BAIKAL'S ENVIRONMENTAL ISSUES

Home to an estimated 60,000 *nerpa* seals, Lake Baikal is beautiful, pristine and drinkably pure in most areas. As it holds an astonishing 80% of Russia's fresh water, environmentalists are keen to keep things that way. In the 1960s, despite the repression of the Soviet system, it was the building of Baikal's first (and only) lakeside industrial plant that galvanised Russia's initial major green movement. That plant, the Baikalsk paper-pulp factory, is still monitored today while the owners argue over a costly clean-up plan assisted by the World Bank.

These days some two-thirds of Baikal's shoreline falls within parks or reserves, so similar factories would not be allowed. But the ecosystem extends beyond the lake itself. Another challenge includes polluted inflows from the Selenga River, which carries much of Mongolia's untreated waste into the lake. The most contentious of recent worries is the US$16 billion Eastern Siberia oil pipeline from Tayshet to the Pacific coast. The route deliberately loops north avoiding the lakeshore itself. Nonetheless, when finished, some 80 million tonnes of oil a year will flow across the lake's northern water catchment area, an area highly prone to seismic activity. Environmentalists fear that a quake-cracked pipeline could spill vast amounts of oil into the Baikal feedwaters. Ironically, the government decree allowing the project to proceed was signed in December 2004, just days after a huge earthquake caused the disastrous Southeast Asian tsunami.

For much more information, click to the websites of regional eco-groups **Baikal Wave** (www.baikalwave.eu.org/eng.html) and **Baikal Watch** (www.earthisland.org/baikal/), as well as the wonderful **Baikal Web World** (www.bww.irk.ru), which has a lot of information about the wildlife, history and legends of the lake.

China

See http://china.org.cn, a Chinese government site with a link to a page covering environmental issues.

As a developing country experiencing rapid industrialisation, it's not surprising that China has some hefty environmental issues to contend with. Unfortunately, China's huge population makes its environmental plights infinitely bigger than those of other nations. Air pollution, deforestation, endangered species, and rural and industrial waste are all taking their toll. Seven of the world's 10 most polluted cities are in China, with most of the country's major cities lying smothered under great canopies of smog.

The biggest source of this pollution is coal. It provides some 70% of China's energy needs and around 900 million tonnes of it go up in smoke yearly. The result is immense damage to air and water quality, agriculture and human health, with acid rain falling on about 30% of the country.

THE GREEN WALL OF CHINA

If you visit Beijing in spring and experience the sand storms that send residents rushing around with plastic bags over their heads, you may not be so surprised to hear that the city may one day be swallowed up by the Gobi Desert. Only 150km away, the winds are blowing the sands towards the capital at a rate of 2km a year, with 30m dunes closing in. In their wake, these massive dust storms have left entire towns abandoned and environmental refugees numbering in the millions. They've also brought about bizarre weather effects, like 'black winds' and 'mud rains'. Experts blame the problem on overgrazing and deforestation; every month 200 sq km of arable land in China becomes a desert.

In a rather late attempt to fend off the desert, China's government has pledged US$6.8 billion to build a green wall between Beijing and the sands; at 5700km long, it will be longer than the Great Wall of China. Unfortunately, the work so far doesn't appear to be doing the trick. Few of the millions of planted trees are surviving, while overirrigation, air pollution, erosion and corruption – all of which are playing a role in the desertification – remain unaddressed. As researchers, bureaucrats and villagers try to hammer out a solution, the sands are beginning to find their way across the Pacific, dropping grit on Vancouver and bringing unreal sunsets to San Francisco.

With the Olympics on their way and its entry into the World Trade Organization (WTO), China seems to have changed its policy of 'industrial catch-up first, environmental clean-up later' to one of tidying up its environmental act now. Nevertheless, analysts continue to point to an impending environmental catastrophe, fearing that the efforts could well be too little, too late.

In *The River Runs Black,* Elizabeth Economy gives a fascinating account of China's environmental crisis. Her perspective is neither melodramatic nor dull, and very readable.

The impact of China's environmental problems unfortunately doesn't stop at the country's borders (see above). Across the north of China, rampaging natural fires are believed to consume more than 200 million tonnes of coal each year, further exacerbating China's contribution to global warming.

Mongolia

The natural environment of Mongolia remains in good condition compared with that of many Western countries. The country's small population and nomadic subsistence economy have been its environmental salvation.

However, it does have its share of problems. Communist-era production quotas put pressure on grasslands to yield more crops and support more livestock than was sustainable. The rise in the number of herders and livestock through the 1990s has wreaked havoc on the grasslands; some 70% of pastureland is degraded and around 80% of plant species near village centres have disappeared.

Forest fires, nearly all of which are caused by careless human activity, are common during the windy spring season. In 1996 alone around 80,000 sq km of land was scorched, causing up to US$1.9 billion in damages.

Other threats to the land include mining (there are over 300 mines), which has polluted 28 river basins. The huge Oyu Tolgoi mine in Ömnögov will require the use of 360L of water *per second,* which environmentalists say might not be sustainable. Neighbouring China's insatiable appetite for minerals and gas is prompting Mongolia to open up new mines, but the bigger threat is China's hunt for the furs, meat and body parts of endangered animals. Chinese demand results in the killing each year of 2000 musk deer and well over 200,000 marmots.

Urban sprawl, along with a demand for wood to build homes and to use as heating and cooking fuel, is slowly reducing the forests. This destruction of the forests has also lowered river levels, especially the Tuul Gol near Ulaanbaatar. In recent years the Tuul Gol has actually gone dry in the spring months due to land mismanagement and improper water use.

Large-scale infrastructure projects are further cause for concern. Conservationists are worried about the 'Millennium Rd', which is being built before the finalisation of environmental impact studies. Its completion is sure to increase mining and commerce inside fragile ecosystems. The eastern grasslands, one of the last great open spaces in Asia, will come under particular threat.

Air pollution is becoming a serious problem, especially in Ulaanbaatar. At the top of the Zaisan Memorial in the capital, a depressing layer of dust and smoke from the city's three thermal power stations can be seen hovering over the city. This layer is often appalling in winter, when all homes are continuously burning fuel and the power stations are working overtime. Ulaanbaatar has also suffered from acid rain, and pollution is killing fish in the nearby Tuul Gol in central Mongolia.

Mongolians consider eating wolf meat and lungs good for respiratory ailments, while consuming the intestines can aid digestion. Powdered wolf rectum is used for haemorrhoids. Hanging a wolf's tongue around one's neck cures gland and thyroid ailments.

Food & Drink

Travellers on the Trans-Siberian route will have ample opportunities to sample the very best (and sometimes the worst) of Russia's kitchens. Those heading into or out of China will have a mind-boggling array of regional delicacies to explore, while those travelling the Trans-Mongolian route can add in hearty nomadic-inspired Mongolian dishes. One thing's for sure: you won't go hungry!

In most Russian cities the three-course set-menu *biznes* lunch, generally served noon to 4pm Monday to Friday, is a great bargain, costing as little as R100 to R150 (up to R250 in Moscow and St Petersburg).

STAPLES & SPECIALITIES

Russia

Russia has a great culinary heritage enriched by influences from the Baltic to the Far East. The country's rich black soil provides an abundance of grains and vegetables used in the wonderful range of breads, salads and appetisers of its cuisine, and for the base in the distinctive soups that are the highlight of any Russian meal. Russia's rivers, lakes and seas yield up a unique range of fish and, as with any cold climate country, there's a great love of fat-loaded dishes – Russia is no place to go on a diet!

Get into the Russian way of starting a meal with a few *zakuski* (hors d'oeuvres), which are often the most interesting items on the menu and usually a good choice for vegetarians. Soups, such as borsch, made with beetroot, *lapsha* (chicken noodle) and *solyanka* (a thick broth with meat, fish and a host of vegetables) can be a meal in themselves, served with piles of bread and a thick dollop of sour cream. Main dishes often come with a salad garnish, but you'll usually have to order rice or potatoes as side dishes.

During summer outdoor pizza and *shashlyk* (kebab) stalls pop up all over the place. Other standard snacks you'll find are *pirozhki* (pies) and bliny (pancakes served with a range of fillings). Useful for nibbling on long journeys is *kolbasa*, a salami-like sausage, which is made in a wide variety of styles and can go down pretty well with bread, tomato and raw onion.

TRAVEL YOUR TASTEBUDS

You'll discover a variety of regional food specialities along the rail routes. Here are a few of our favourites:

- *Omul* (a cousin of salmon and trout) is endemic to Lake Baikal and considered a great delicacy.
- *Oblyoma,* a dried, salty fish found in the Volga, is eaten most often as a snack food with beer.
- *Kalmary* (calamari), *kraby* (crab) and *grebeshki* (scallops) are all standard items on Vladivostok menus.
- *Manti* (steamed, palm-sized dumplings), known as *pozy* or *buuzy* in Buryatiya and *pyan-se* (a peppery version) in the Russian Far East.
- *Húntun* (wontons), filled with leeks and minced pork, served in northern China.
- Noodles topped with *lǔròu huáng miàn* (sliced donkey meat) or hearty *kǎo yángròu* (roasted mutton) are also popular in northeastern China.
- *Öröm* (sometimes called *üürag*) – a rich, sweet-tasting Mongolian cream made by warming fresh cow's milk in a pot and then letting it sit under a cover for one day.
- Mongolian blueberry jam, a summer speciality.

China

Although it's possible to dine on the many different regional styles of Chinese food across the country, Trans-Mongolian and Trans-Manchurian travellers will most commonly be served northern Chinese cuisine, where the *fàn* (grain) in the meal is usually wheat or millet, rather than rice. Its most common incarnations are as *jiǎozi* (steamed dumplings) or *chūnjuǎn* (spring rolls). The most famous northern dish, Peking duck (or Beijing duck as it is called today), is also served with typical ingredients: wheat pancakes, spring onions and fermented bean paste. The range of *cài* (vegetable or other accompanying dishes) is limited in the north. The cuisine relies heavily on freshwater fish, chicken and, most of all, cabbage.

In *A Year of Russian Feasts* Catherine Cheremeteff-Jones recounts how Russia's finest dishes have been preserved and passed down through the feast days of the Russian Orthodox Church.

The influence of the Mongols is evident in northern Chinese cuisine. Mongolian hotpot and Mongolian barbecue are adaptations from Mongol field kitchens. Animals that were hunted on horseback could be cooked in primitive barbecues made from soldiers' iron shields on top of hot coals. Alternatively, a soldier could use his helmet as a pot, filling it with water, meat and condiments. Mutton is now the main ingredient in Mongolian hotpot.

The most common method of cooking in Beijing is 'explode-frying', or deep-frying in peanut oil. Although northern Chinese cuisine has a reputation for being bland and unsophisticated, it has the advantage of being filling and therefore well suited to the cold climate.

In Beijing, of course, every region of China and most regions of the world are represented in the splendid restaurant scene. The options range from the street stalls at Donghuamen Night Market to chic (and pricey) fusion restaurants where East meets West. Eating out in this cosmopolitan city is an adventure that should be seized with both chopsticks!

Mongolia

The culinary masters of Mongolia's barren steppes have always put more stock in survival than taste. Mongolian food is therefore a hearty, if somewhat bland, array of meat and dairy products. Out in the countryside, potatoes are often considered exotic, leavened bread a treat and spices a cause for concern.

The following three websites will teach you more about Russian, Chinese and Mongolian cuisine, respectively: www.ruscuisine.com, http://chinesefood.about.com and www.9v.com/crystal/kerij-e/docs/cooking.htm.

The streamlined diet reflects Mongolia's nomadic lifestyle. Nomads cannot reasonably transport an oven, and so are prevented from producing baked goods. Nor can nomads plant, tend to or harvest fruits, vegetables, spices or grains. Nomads can, however, eat the food that their livestock produces.

Dairy products – known as 'white foods' – are the staple for herdsmen in the summer. Camel's milk, thick cream, dried milk curds and fermented cheese are just a few of the delicacies you may sample (most of which taste like sour, plain yoghurt). During winter the vast majority of Mongolians survive on boiled mutton and flour.

DRINKS

Russia

Vodka can be bought everywhere. Better Russian brands include Flagman, Gzhelka and Russky Standart (Russian Standard). Today beer is overtaking vodka in popularity and for good reason – the quality is

excellent and it's cheap at around R30 for a 500mL bottle. The market leader is Baltika, making a range of 12 different brews; No 3, the most common, is a very quaffable lager.

Many locals prefer their wine *polusladkoe* (semisweet) or *sladkoe* (sweet). The latter is often little short of diluted alcoholic sugar. *Bryut* (very dry and only for sparkling wine), *sukhoe* (dry) and *polusukhoe* (semi-dry) reds can be found, though getting a good dry white can be quite tough. Locally produced sparkling wine Shampanskoye is remarkably cheap (around R300 a bottle) and popular, and rarely anything like champagne.

Russian brandy is called *konyak*. The finest comes from the Caucasus. Standards vary enormously, but local five-star brandies are generally a very pleasant surprise. *Kvas* is fermented rye bread water, and is often dispensed on the street from big, wheeled tanks. It is mildly alcoholic, tastes not unlike ginger beer, and is a wonderfully cool and refreshing drink in summer.

Tap water is suspect in some cities and should definitely be avoided in St Petersburg. Many people stick to bottled water, which is ubiquitous and cheap.

Russians are world-class tea drinkers: the traditional brewing method is to make an extremely strong pot, pour small shots of it into glasses and fill the glasses with hot water from the kettle. Putting jam, instead of sugar, in tea is quite common.

Coffee comes in small cups, and unless you buy it at kiosks or stand-up eateries, it's usually quite good. There's been an explosion of Starbucks-style cafés all across Russia's bigger cities – cappuccino, espresso, latte and mocha are now as much a part of the average Russian lexicon as elsewhere.

Other drinks, apart from the ubiquitous canned soft drinks, include *sok* (juice) and *kefir* (yoghurtlike sour milk).

China

Legend has it that tea was first cultivated in China about 4000 years ago in the modern-day province of Sichuan. Today tea is a fundamental element of Chinese life, with green tea the most popular beverage throughout the country. Other local beverages include sugary soft drinks and fresh, sweet yoghurt, available from street stalls and shops across the country. The latter is typically sold in small milk bottles and consumed through a straw.

Beer is also very popular, the best known Chinese brew being Tsingtao, produced in the formerly German town of Qingdao (the Chinese inherited the brewery). A notable Beijing brand is Yanjing. Note that Chinese 'wines' are actually spirits, many used primarily for cooking or medicinal purposes. Chinese red and white wines tend to unanimously get the thumbs down from Westerners.

Imported beverages, such as soda, beer and coffee, are available at many shops and restaurants. And yes, Starbucks has opened its doors in Beijing, inspiring many local cafés to follow suit.

The question '*Nǐ chī fànle ma?*' (Have you eaten yet?) is a common greeting among Chinese people and is taken to show the significance of food in Chinese culture.

Mongolia

Mongolians commence every meal with a cup of weak tea to aid digestion. In the countryside, many people drink *süütei tsai* (salty tea), which is a taste that is hard to acquire.

The most famous Mongolian alcoholic drink is *airag* (sometimes called *koumiss*), fermented mare's milk. Herders make it at home with an alcohol content of about 3%. If further distilled, it becomes the more potent *shimiin arkhi,* a clear spirit with 12% alcohol content. Mongolians have inherited a penchant for vodka from their former Russian patrons; they used to export vodka to Russia, but now consume much of it themselves. Several pubs in Ulaanbaatar brew their own light and dark beers (see p265).

Mongolia has about 175 distilleries and 27 breweries. Drink with caution, as some 11% of these places regularly fail health quality inspections.

DRINKING ETIQUETTE IN RUSSIA & MONGOLIA

At bars, restaurants and on trains, it's odds-on if you get talking with Russians they'll press you to drink with them. Even people from distant tables, spotting foreigners, may be seized with hospitable urges.

If it's vodka being drunk, they'll want a man to down the shot in one, neat of course; women are usually excused. This can be fun as you toast international friendship and so on, but vodka has a knack of creeping up on you from behind and the consequences can be appalling. It's traditional (and good sense) to eat a little something after each shot.

Refusing a drink can be very difficult, and Russians will probably continue to insist until they win you over. If you can't stand firm, drink in small gulps with copious thanks, while saying how you'd love to indulge but you have to be up early in the morning (or something similar). If you're really not in the mood, one sure-fire method of warding off all offers (as well as making people feel quite awful) is to say '*Ya alkogolik*' (*Ya alkogolichka* for women): 'I'm an alcoholic.'

Mongolians are not quite so pushy when it comes to drinking alcohol, but it's worth noting at least one local vodka drinking tradition. Before the first sip, honour the sky gods and the four directions by dipping your left ring finger into the glass and flicking drops into the air four times as well as touching the finger to your forehead.

WHERE TO EAT & DRINK

On the Trains

At times a trip on the Trans-Siberian Railway can seem like an endless picnic, with all manner of foods being picked over and shared among fellow passengers in the compartments. The dining cars on Russian trains are private operations: the food served in them can vary enormously in quality, and they are best favoured more for their makeshift role as a social centre than for any gastronomic qualities. The dining cars are the place to meet fellow travellers, drink beer and play cards, and generally hang out.

The dining cars are changed at each country's border, so en route to Beijing you will get Russian, Chinese and possibly Mongolian menus (although it's unlikely there'll be a car attached between the Russian border and Ulaanbaatar). A meal with accompanying drink will rarely cost above US$10 paid in local currency. Dining cars are open from approximately 9am to 9pm local time, although this is by no means certain and with the time-zone differences knowing when to turn up can be a constant guessing game.

Also, during the peak summer season on the more popular Trans-Siberian services, such as the *Rossiya* and *Baikal,* the dining car can be booked out at certain times by tour groups. On both these trains and a few others it's possible to buy a ticket that includes all meals – probably not the best of ideas given the variable nature of what's on offer, and only worth considering if you have a total aversion to shopping en route.

In the dining car you will often find a table of pot noodles, chocolate, alcohol, juice and the like being peddled by the staff. They sometimes

make the rounds of the carriages, too, with a trolley fileed with various snacks and drinks. The *provodnitsas* (carriage attendants) also offer their own drinks and nibbles. Prices are cheap but overinflated compared to what you would pay at the kiosks or to the babushkas at the station halts.

Many of the recipes in *Imperial Mongolian Cooking: Recipes from the Kingdoms of Ghengis Khan,* by Marc Cramer, are from the author's grandfather, who worked as a chef in Siberia.

Off the Trains

Shopping for supplies at most Russian stations is all part of the fun of a journey on the Trans-Siberian Railway (note that this is not the case, though, in Mongolia and China, where you will find very little food available on the platforms). The choice of items can be excellent, with fresh milk, ice cream, grilled chicken, boiled potatoes, home cooking such as *pelmeni* (dumplings) or *pirozhki* (savoury pies), buckets of forest berries and smoked fish all on offer. It's a good idea to have plenty of small change on hand, but you'll rarely have to worry about being overcharged.

Today in most Trans-Siberian cities there's plenty of choices when it comes to places to eat. Meals in the best new restaurants (where you'd typically pay between R500 and R1000 for a meal) can be fine renditions of Russian classics made with fresh and tasty ingredients. In contrast, a *stolovaya* is a cafeteria-style place often found outside train stations, and in office blocks and government institutions, where a meal rarely tops R100.

Ulaanbaatar has a fine range of restaurants, but if you leave the capital be prepared for gastronomic purgatory. In cheap restaurants throughout Mongolia, mutton is the special of the day, every day: mutton with rice, mutton in goulash etc. A *guanz* is a canteen that often offers little but mutton and noodles. In the countryside, the *guanz* is often housed in a *ger* (yurt) and may be a traveller's only eating option apart from self-catering.

Fortunately, many places in Ulaanbaatar – as well as *ger* camps that cater to foreigners – have expanded their menus. A few restaurants serve Mongolian hotpot and Mongolian barbecue, but these are really Chinese adaptations of ancient Mongolian cooking techniques. You are more likely to sustain yourself on *buuz* (steamed dumplings) and *khuushuur* (fried pancakes with mutton).

It's hard to go hungry in China as just about everywhere you go there will be a myriad of food options to suit most budgets. The word *fàngdiàn* usually refers to a large-scale restaurant that may or may not offer lodging. A *cānguǎn* is generally a smaller restaurant that specialises in one particular type of food. The most informal type of restaurant is the *cāntīng,* which has low-end prices, though the quality of the food can be quite high.

Tourist-friendly restaurants can be found around tourist sights and often have English signs and menus. Sometimes food can be quite overpriced and geared towards foreign tastes. It's easy to find restaurants that cater to Chinese clientele – just look for noisy, crowded places; the noisier the better.

VEGETARIANS & VEGANS

Russia is pretty tough on vegetarians, although some restaurants have thankfully caught on, particularly in Moscow, St Petersburg and the other large cities. Russian main dishes are heavy on meat and poultry, and vegetables are often boiled to near death – even the tasty vegetable and fish soups are usually made using meat stock. If you're a vegetarian, say so, early and often. You'll see a lot of cucumber and tomato salads, and – if so inclined – you will develop an eagle eye for *baklazhan* (eggplant), plus the rare good fish (if you eat fish) and dairy dishes. *Zakuski* include quite a lot of meatless ingredients, such as eggs and mushrooms. If you're travelling during Lent, you'll find that many restaurants have special nonmeat menus.

Despite vegetarianism having a 1000-year history in China, eating meat is a status symbol, symbolic of health and wealth. Many Chinese remember all too well the famines of the 1950s and 1960s, when having anything to eat at all was a luxury. Even vegetables are often fried in animal-based oils, and soups are most commonly made with chicken or beef stock. In Beijing vegetarianism is slowly catching on, and there are new chic vegetarian eateries appearing in fashionable restaurant districts. These are often pricey establishments and you pay for ambience as well as the food.

A traditional Chinese vegetarian menu will often consist of a variety of 'mock meat' dishes made from tofu, wheat gluten and vegetables. Some of the dishes in China are quite fantastic to look at, with vegetarian ingredients expertly sculpted to look like spare ribs or fried chicken. Sometimes the chefs will even go to great lengths to create 'bones' from carrots and lotus roots. Some of the more famous vegetarian dishes include vegetarian 'ham', braised vegetarian 'shrimp' and sweet and sour 'fish'.

Mongolia is a difficult, but not impossible, place for vegetarians. If you don't eat meat, you can get by in Ulaanbaatar, but in the countryside you will need to take your own supplements and preferably a petrol stove. Vegetables other than potatoes, carrots and onions are rare, relatively expensive and usually pickled in jars, so the best way for vegetarians to get protein is from the wide range of dairy products. Vegans will either have to be completely self-sufficient, or be prepared to modify their lifestyle for a while.

DINING ON THE RAILS *Simon Richmond*

The bespectacled chef on the Harbin to Manzhouli train, with cigarette dangling from mouth, hands caressing his ample belly protruding from liberally stained overalls, did not inspire confidence. However, when he came to take my order he kindly helped me to decipher the handwritten Chinese menu. Together we arrived at a meal choice of duck with carrots and onions, stir-fried peppers and carrots, rice and soup, all washed down with some Harbin beer. Almost in an instant the freshly cooked, perfectly palatable food was laid before me, amazingly all for less than US$5.

My next restaurant car meal was in Russia on the train from Chita to Irkutsk. Even though this service originated in Chita, I was faced with the common situation of Russian restaurant cars: that many items on the menu were not available. Uncommonly, the smiling waitress was pleasantly disposed to our group, and eventually we managed to settle on the old stand-by of *solyanka,* a spicy Korean carrot salad, and mushrooms baked in sour cream – all totally delicious. Several vodka toasts followed.

No food was available on the train from Sükhbaatar to Ulaanbaatar, nor was there a buffet car attached to the service I caught out of the Mongolian capital towards the Chinese city of Hohhot. However, my ticket for the latter train did include a food voucher in return for which I received a not completely inedible meal of vacuum-packed sliced beef, a bread roll, a dry biscuit, bottled water and some instant coffee powder. The *provodnitsa* (carriage attendant) also brought around some cups of tea for dinner and breakfast, although later she wanted to be paid for this service.

EAT YOUR WORDS

This glossary is a brief guide to some basics. The italics in the transliterations indicate where the stress in the word falls; see p342 for further tips on pronunciation.

Useful Phrases

RUSSIA

Do you have a table ...?
yest' sva·*bod*·ni *sto*·lik ... — У вас есть свободный столик ...?
- **for two** — na dva·*ikh* — на двоих
- **for three** — na tra·*ikh* — на троих

Do you have an English menu?
an·*gli*·ski men·*yu mozh*·na — У вас есть английское меню можно?

Please bring (a/an/the) ...
pri·ne·*si*·te pa·*zhal*·sta ... — Принесите, пожалуйста ...
- **ashtray** — *pye*·pel'·ni·tsu — пепельницу
- **bill** — shyot — счёт
- **fork** — *vil*·ku — вилку
- **knife** — nozh — нож
- **plate** — ta·*ryel*·ku — тарелку
- **glass of water** — sta·*kan vo*·di — стакан воды
- **with/without ice** — s l'·*dom*/byez l'·*da* — со льдом/без льда

I'm a vegetarian.
ya ve·ge·ta·ri·*a*·nets/ya ve·ge·ta·ri·*an*·ka (m/f) — Я вегетарианец/Я вегетарианка.

I don't eat meat.
ya nye yem myas·*no*·va — Я не ем мясного.

I can't eat dairy products.
ya nye yem ma·*loch*·na·va — Я не ем молочного.

Do you have any vegetarian dishes?
u vas yest' ve·ge·ta·ri·*an*·ski·e *blyu*·da — У вас есть вегетарианские блюда?

Does this dish have meat?
e·ta *blyu*·da myas·*no*·e — Это блюдо мясное?

Does it contain eggs?
v *e*·tam *blyu*·de yest' *yay*·tsa — В этом блюде есть яйца?

I'm allergic to nuts.
u me·*nya* a·ler·*gi*·ya na a·*ra*·khi — У меня аллергия на орехи.

CHINA

I don't want MSG.	*Wǒ bú yào wèijīng.*	我不要味精
I'm vegetarian.	*Wǒ chī sù.*	我吃素
not too spicy	*bù yào tài là*	不要太辣
menu	*càidān*	菜单
bill (cheque)	*mǎidān/jiézhàng*	买单/结帐
set meal (no menu)	*tàocān*	套餐
let's eat	*chī fàn*	吃饭
cheers!	*gānbēi*	干杯
chopsticks	*kuàizi*	筷子
knife	*dàozi*	刀子
fork	*chāzi*	叉子
spoon	*tiáogēng/tāngchí*	调羹/汤匙
hot	*rède*	热的
ice cold	*bīngde*	冰的

MONGOLIA

I can't eat meat.
bi makh i-dej cha-dakh-gui — Би мах идэж чадахгүй.

Can I have a menu please?
bi khool-nii tses avch bo-lokh uu — Би хоолны цэс авч болох уу?

How much is it?
e-ne ya-mar ü-ne-tei ve — Энэ ямар үнэтэй вэ?

What food do you have today?
ö-nöö-dör ya-mar khool-toi ve — Өнөөдөр ямар хоолтой вэ?

When will the food be ready?
khool khe-zee be-len bo-lokh ve — Хоол хэзээ бэлэн болох вэ?

Food Glossary

RUSSIA

Breakfast

bli·*ny*	блины	leavened buckwheat pancakes; also eaten as an appetiser or dessert
blin·chi·ki	блинчики	bliny rolled around meat or cheese and browned
ka·sha	каша	Russian-style buckwheat porridge
kye·fir	кефир	buttermilk, served as a drink
am·*lyet*	омлет	omelette
tva·*rog*	творог	cottage cheese
yay·*tso*	яйцо	egg
ya·*ich*·ni·tsa	яичница	fried egg

Lunch & Dinner

za·*ku*·ski	закуски	hors d'oeuvres
pyer·vi·e *blyu*·da	первые блюда	first courses (usually soups)
vto·*ri*·e *blyu*·da	вторые блюда	second courses or 'main' dishes
gar·*ya*·chi·e *blyu*·da	горячие блюда	hot courses or 'main' dishes
de·*syer*·ti	десерты	sweet courses or desserts

Methods of Preparation

va·*ryo*·ni	вареный	boiled
zhar·ni	жареный	roasted or fried
at·var·*noy*	отварной	poached or boiled
pe·*chyo*·ni	печёный	baked
fri	фри	fried

Appetisers

ik·*ra*	икра	black (sturgeon) caviar
ik·*ra kras*·na·ya	икра красная	red (salmon) caviar
gri·*bi* v sme·*ta*·ne	грибы в сметане	mushrooms baked in sour cream
zhul'·*yen* iz gri·*bov*	жульен из грибов	another name for mushrooms baked in sour cream
sa·*lat* iz pa·mi·*do*·rav	салат	tomato salad
sa·*lat* sta·*lich*·ni	салат столичный	salad of vegetable, beef, potato and egg in sour cream and mayonnaise

Soup

borsch	борщ	beetroot soup with vegetables and sometimes meat
lap·*sha*	лапша	noodle soup

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ak·*rosh*·ka	окрошка	cold or hot soup made from cucumbers, sour cream, potatoes, eggs, meat and *kvas*
sal·*yan*·ka	солянка	thick meat or fish soup
u·*kha*	уха	fish soup with potatoes and vegetables
khar·*cho*	харчо	traditional Georgian soup of lamb, rice and spices
shchi	щи	cabbage or sauerkraut soup

Fish

ri·ba	рыба	fish
a·set·*ri*·na	осетрина	sturgeon
syom·ga	сёмга	salmon
su·*dak*	судак	pike, perch
fa·*ryel'*	форель	trout

Poultry & Meat Dishes

mya·sa	мясо	meat
an·tre·*kot*	антрекот	entrecôte – boned sirloin steak
ba·*ra*·ni·na	баранина	lamb or mutton
bif·stra·ga·*nov*	бифстроганов	beef stroganov – beef slices in a rich cream sauce
bif·*shteks*	бифштекс	'steak', usually a glorified hamburger
gav·*ya*·di·na	говядина	beef
ga·lub·*tsi*	голубцы	cabbage rolls stuffed with meat
zhar·*ko*·e pa da·*mash*·ne·mu	жаркое по-домашнему	meat stewed in a clay pot 'home-style', with mushrooms, potatoes and vegetables
pti·tsa	птица	chicken or poultry
kat·*lye*·ta	котлета	usually a croquette of ground meat
kat·*lye*·ta pa *ki*·ev·ski	котлета по-киевски	chicken Kiev; fried chicken breast stuffed with garlic butter
kat·*lye*·ta po- *zhar*·skaya	котлета по-жарски	croquette of minced chicken
kal·ba·*sa*	колбаса	a type of sausage
mya·sa pa ma·nas·*tir*·ski	мясо по-монастирски	meat topped with cheese and sour cream
pel'·*mye*·ni	пельмени	small meat dumplings
plov	плов	pilaf – fried rice with lamb and carrots
po·zi	пози	large meat dumplings
svi·*ni*·na	свинина	pork
shash·*lyk*	шашлык	skewered and grilled mutton or other meat
tef·te·li	тефтели	meat-and-rice balls

Vegetables

o·va·shchi	овощи	vegetables
gar·*ni*·ri	гарниры	any vegetable garnish
bak·la·*zhan*	баклажан	eggplant/aubergine
ches·*nok*	чеснок	garlic
ga·*rokh*	горох	peas
gri·*bi*	грибы	mushrooms

ka·*pus*·ta	капуста	cabbage
kar·*tosh*·ka/kar·*to*·fel'	картошка/картофель	potato
mar·*kov'*	морковь	carrots
zye·len'	зелень	greens
a·gur·*yets*	огурец	cucumber
pa·mi·*dor*	помидор	tomato

Fruit

fruk·ti	фрукты	fruit
ab·ri·*kos*	абрикос	apricot
a·pel'·*sin*	апельсин	orange
vish·nya	вишня	cherry
ba·*nan*	банан	banana
vi·na·*grad*	виноград	grapes
gru·sha	груша	pear
ya·bla·ka	яблоко	apple

Other Foods

mas·la	масло	butter
pye·rets	перец	pepper
ris	рис	rice
sa·khar	сахар	sugar
sol'	соль	salt
sir	сыр	cheese
khlyeb	хлеб	bread

Desserts

ma·*ro*·zhe·na·e	мороженое	ice cream
ki·*syel'*	кисель	fruit jelly/jello
kam·*pot*	компот	fruit in syrup
pi·*rozh*·na·e	пирожное	pastries

CHINA

Methods of Preparation

chǎo	炒	fry
hóngshāo	红烧	red-cooked (stewed in soy sauce)
kǎo	烤	roast
yóujiān	油煎	deep-fry
zhēng	蒸	steam
zhǔ	煮	boil

Rice Dishes

jīchǎofàn	鸡炒饭	fried rice with chicken
jīdàn chǎofàn	鸡蛋炒饭	fried rice with egg
mǐfàn	米饭	steamed white rice
shūcài chǎofàn	蔬菜炒饭	fried rice with vegetables
xīfàn; zhōu	稀饭； 粥	watery rice porridge *(congee)*

Noodle Dishes

húntun miàn	馄饨面	wontons and noodles
jīsī chǎomiàn	鸡丝炒面	fried noodles with chicken
jīsī tāngmiàn	鸡丝汤面	soupy noodles with chicken
májiàng miàn	麻酱面	sesame paste noodles
niúròu chǎomiàn	牛肉炒面	fried noodles with beef
niúròu miàn	牛肉汤面	soupy beef noodles

ròusī chǎomiàn	肉丝炒面	fried noodles with pork
shūcài chǎomiàn	蔬菜炒面	fried noodles with vegetables
tāngmiàn	汤面	noodles in soup
xiārén chǎomiàn	虾仁炒面	fried noodles with shrimp
zhájiàng miàn	炸酱面	bean and meat noodles

Bread, Buns & Dumplings

cōngyóu bǐng	葱油饼	spring onion pancakes
guōtiē	锅贴	pot stickers/pan-grilled dumplings
mántóu	馒头	steamed buns
ròu bāozǐ	肉包子	steamed meat buns
shāo bǐng	烧饼	clay-oven rolls
shǔijiān bāo	水煎包	pan-grilled buns
shuǐjiǎo	水饺	boiled dumplings
sùcài bāozi	素菜包子	steamed vegetable buns

Soup

húntun tāng	馄饨汤	wonton soup
sān xiān tāng	三鲜汤	three kinds of seafood soup
suānlà tāng	酸辣汤	hot and sour soup

Beef Dishes

gānbiān niúròu sī	干煸牛肉丝	stir-fried beef and chilli
háoyóu niúròu	蚝油牛肉	beef with oyster sauce
hóngshāo niúròu	红烧牛肉	beef braised in soy sauce
niúròu fàn	牛肉饭	beef with rice
tiěbǎn niúròu	铁板牛肉	sizzling beef platter

Chicken & Duck Dishes

háoyóu jīkuài	蚝油鸡块	diced chicken in oyster sauce
hóngshāo jīkuài	红烧鸡块	chicken braised in soy sauce
jītuǐ fàn	鸡腿饭	chicken leg with rice
níngméng jī	柠檬鸡	lemon chicken
tángcù jīdīng	糖醋鸡丁	sweet and sour chicken
yāoguǒ jīdīng	腰果鸡丁	chicken and cashews
yāròu fàn	鸭肉饭	duck with rice

Pork Dishes

biǎndòu ròusī	扁豆肉丝	shredded pork and green beans
gūlǔ ròu	咕噜肉	sweet and sour pork
guōbā ròupiàn	锅巴肉片	pork and sizzling rice crust
háoyóu ròusī	耗油肉丝	pork with oyster sauce
jiàngbào ròudīng	酱爆肉丁	diced pork with soy sauce
jīngjiàng ròusī	京酱肉丝	pork cooked with soy sauce
mùěr ròu	木耳肉	wood-ear mushrooms and pork
páigǔ fàn	排骨饭	pork chop with rice
qīngjiāo ròupiàn	青椒肉片	pork and green peppers
yángcōng chǎo ròupiàn	洋葱炒肉片	pork and fried onions

Seafood Dishes

gélí	蛤蜊	clams
gōngbào xiārén	宫爆虾仁	diced shrimp with peanuts
háo	蚝	oysters
hóngshāo yú	红烧鱼	fish braised in soy sauce
lóngxiā	龙虾	lobster

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pángxiè	螃蟹	crab
yóuyú	鱿鱼	squid
zhāngyú	章鱼	octopus

Vegetable & Bean Curd Dishes

báicài xiān shuānggū	白菜鲜双菇	bok choy and mushrooms
cuìpí dòufu	脆皮豆腐	crispy skin bean curd
hēimù'ěr mèn dòufu	黑木耳焖豆腐	bean curd with wood-ear mushrooms
hóngshāo qiézi	红烧茄子	red cooked aubergine
jiācháng dòufu	家常豆腐	'home-style' tofu
jiāngzhī qīngdòu	姜汁青豆	string beans with ginger
lúshuǐ dòufu	卤水豆腐	smoked bean curd
shāguō dòufu	砂锅豆腐	clay pot bean curd
sùchǎo biǎndòu	素炒扁豆	garlic beans
sùchǎo sùcài	素炒素菜	fried vegetables
tángcù ǒubǐng	糖醋藕饼	sweet and sour lotus root cakes
yúxiāng qiézi	鱼香茄子	'fish-resembling' aubergine

Fruit

bālè	芭乐	guava
bōluó	菠萝	pineapple
gānzhè	甘蔗	sugar cane
lí	梨	pear
lìzhī	荔枝	lychee
lóngyǎn	龙眼	'dragon eyes'
mángguǒ	芒果	mango
píngguǒ	苹果	apple
pútáo	葡萄	grape
xiāngjiāo	香蕉	banana
xīgguā	西瓜	watermelon

MONGOLIA

shöl	шөл	soup
ban-shtai shöl	банштай шөл	dumpling soup
gu-ril-tai shöl	гурилтай шөл	handmade noodle soup
goi-mon-tai shöl	гоймонтой шөл	noodle soup
no-goon zuush	ногоон зууш	vegetable salad
bai-tsaan zuush	байцаан зууш	cabbage salad
luu-van-giin zuush	луувангийн зууш	carrot salad
niis-lel zuush	нийслэл зууш	potato salad
khuu-rag	хуурга	fried food
khuu-shuur	хуушуур	fried meat pancake
buuz	бууз	steamed mutton dumplings
tsui-van	цуйван	fried slices of dough with meat
bif-shteks	бифштекс	patty
makh	мах	meat
kho-ni-ny makh	хонины мах	mutton
shni-tsel	шницель	schnitzel
khuur-ga	хуурга	fried meat and flour in sauce
khor-khog	хорхог	meat roasted from the inside with hot stones
shar-san ön-dög	шарсан өндөг	fried egg
talkh	талх	bread
shar-san ta-khia	шарсан тахиа	fried chicken

zai-das/so-sisk	зайдас/сосиск	sausage
za-gas	загас	fish
bu-daa-tai	будаатай	rice
no-goo-toi	ногоотой	vegetables
tom-stei	төмстэй	potato
tsö-tsgii	цөцгий	sour cream

DRINKS

Russia

va·*da*	вода	water
mi·ne·*ral*·na·ya va·*da*	минеральная вода	mineral water
ko·fe	кофе	coffee
chay	чай	tea
ma·la·*ko*	молоко	milk
sok	сок	juice
bez·al·ka·*gol'*·ni na·*pi*·tak	безалкогольный напиток	soft drink
vod·ka	водка	vodka
ig·*ris*·ta·e vi·*no*/sham·*pan*·ska·e	игристое вино/шампанское	sparkling wine/champagne
kras·na·e vi·*no*	красное вино	red wine
bye·la·e vi·*no*	белое вино	white wine
kan·*yak*	коньяк	brandy
pi·*vo*	пиво	beer
kvas	квас	fermented bread drink

China

bái pútáo jiǔ	白葡萄酒	white wine
báijiǔ	白酒	Chinese spirits
chá	茶	tea
dòujiāng	豆浆	soya bean milk
hóng pútáo jiǔ	红葡萄酒	red wine
kāfēi	咖啡	coffee
kāi shuǐ	开水	water (boiled)
kěkǒu kělè	可口可乐	Coca-Cola
kuàngquán shuǐ	矿泉水	mineral water
mǐjiǔ	米酒	rice wine
nǎijīng	奶精	coffee creamer
niúnǎi	牛奶	milk
píjiǔ	啤酒	beer
qìshuǐ	汽水	soft drink (soda)
suānnǎi	酸奶	yoghurt
yézi zhī	椰子汁	coconut juice

Mongolia

tsai	цай	tea
ban-shtai tsai	банштай цай	dumplings in tea
süü-tei tsai	сүүтэй цай	Mongolian milk tea
ra-shaan us	рашаан ус	mineral water
shar ai-rag	шар айраг	beer
air-ag	айраг	fermented mare's milk