READING MUSEUM SERVICE

Hands On Learning
with Reading Museum Service

TEA G84/A





Tea is made from the leaves of a camellia plant - *Camellia sinensis* - an evergreen that is a native of both India and China and can grow at altitudes as high as 2,100 metres above sea level. To grow well the tea plant needs an acid soil, warm conditions all year round and no frost. This means the UK is not really a suitable place to cultivate tea, though in 1999 the Tregothnan Estate in Cornwall started growing tea commercially. However, as it produces only one tonne of tea each year and sells it at almost £7 a packet, this experiment is unlikely to threaten India's dominance of the world's tea production!

A photograph of an individual tea plant can be seen on the right. In the wild, tea plants will grow into a tree if left undisturbed, but cultivated plants are pruned to waist height to make harvesting easy (below left - harvesting in Tanzania). The leaves of *Camellia sinensis* are shiny and look similar to privet. Only the top 1-2 inches (3-4 cm) of the mature plant are picked. These buds and leaves are called flushes and a plant will grow a new flush every seven to ten days during the growing season. The plant bears white, scented flowers which grow in clusters of two or four. Commercial plantations can cover huge areas (below right - plantation in Malaysia) and, although they provide employment, their presence can devastate the biological diversity of a region.





Reading BOROUGH COUNCIL

Heritage Lottery Fund

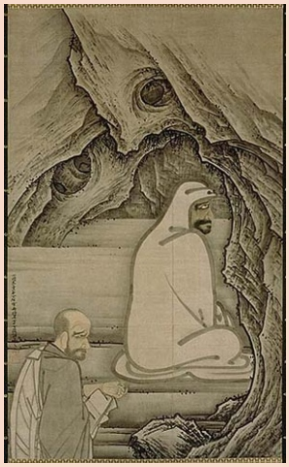
READING MUSEUM SERVICE

Hands On Learning
with Reading Museum Service

TEA G84/A

There are various stories about the origins of tea. Perhaps the most famous is the tale of the fabled Chinese Emperor Shennong (right, his name means the Divine Farmer), who was boiling his drinking water when leaves from a nearby tea shrub blew into the cauldron. He tasted the resulting brew and the beverage of tea was born. An alternative story claims that tea began with the Indian Prince Bodhidharma (left), who converted to Buddhism in the sixth century AD and went to China. After meditating in front of a wall for nine years he accidentally fell asleep. He woke up in such disgust at his weakness, he cut off his eyelids and they fell to the ground and took root, growing into tea bushes! The resulting plant was used as stimulant to help people meditating stay awake.





Tea was certainly known in China as a drink in the time of the teacher Confucius (about 551-479 BC). A little earlier Lao Tzu (about 600-517 BC), the most important figure in the birth of the religion of Taoism, described a drink which he called 'the froth of the liquid jade', which may have been tea. It may have been drunk in China as a form of medicine for many centuries before that (right).



By the time of the Tang Dynasty (AD 618-906) tea was the national drink of China, spreading from court circles to become popular throughout Chinese society. It was during this time that the practice developed of sending the finest teas to the emperor's court as a tribute. During this period the tea was manufactured in brick form. The tea leaves were pounded and pressed into a brick-shaped mould, then dried. To prepare the tea, part of the brick was ground down, and the result was boiled in water. Later, powdered tea was developed from green tea leaves. This gained popularity during the Sung Dynasty (AD 960-1279). Boiled water was poured onto the powder and left to brew, and the resulting liquid was whisked into a frothy tea. At the same time tea drinking became popular in Japan, introduced there by a Zen Buddhist monk who had been studying in China.



Above: Tea leaves infusing in a Chinese cup (called a gaiwan).

Hands On Learning
with Reading Museum Service

TEA G84/A

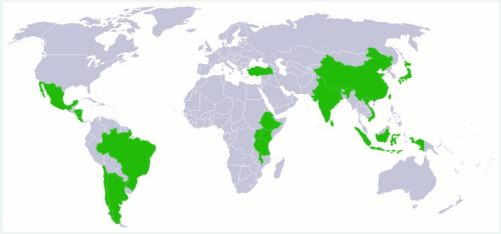
On 25 September 1660, the famous diarist Samuel Pepys wrote that he had been discussing foreign affairs with some friends 'and afterwards did send for a cupp of Tee (a China drink) of which I never drank before'. King Charles I was given two ounces of this precious new drink in the same year.

In 1664 the East India Company, which traded with the far east, placed its first order for tea - 100lb of China tea to be shipped from Java to Britain. By the eighteenth century tea drinking had become an activity for the whole population and the East India Company's imports rocketed. By 1750, annual imports had reached 4,727,992lb. Tea was so expensive that an enormous amount of it was smuggled into Britain. In 1784 the tax on tea was slashed so that smuggling became pointless.



Until the nineteenth century most of the tea that was imported into Britain came from China. In 1834 the East India Company lost its trading rights with China and so a Tea Committee was established to oversee the experiment of growing the plant in India. One obvious area was Assam, where indigenous tea plants had already been found growing. Seeds from China were germinated in Calcutta and then sent on to Assam and other areas to conduct trials. In 1838, 12 chests of Assam tea were sent to the East India Company in London. A new organisation, the Assam Company, was formed to exploit the potential of Assam tea. This new company faced many problems - not least the need to capture and train wild elephants which were necessary to transport tea through the dense jungles - but by 1855 tea cultivation in Assam amounted to over half a million pounds in weight.

Tea cultivation spread to other areas in India. In the late 1860s it was introduced into Sri Lanka, after the coffee crop there failed. Since then it has spread all over the world. The map on the right shows the countries today that have a commercial tea industry.



Above left: Tea production in Assam in 1850.

Hands On Learning
with Reading Museum Service

READING MUSEUM SERVICE

TEA G84/A

Today most teas are manufactured using a five step process.

First, the topmost leaves and buds on the tea plant are picked by hand and collected in a bag carried on the back of the plucker. A skilled plucker can gather up to 75lb (35kg) of plucked leaves in a day, sufficient to produce about 17lb (8kg) of processed black tea.



Second, on arrival at the factory, the plucked leaves are spread on large trays or racks and left to wither in air at 25-30 degrees centigrade. The moisture in the leaves evaporates in the warm air leaving them flaccid. This process can take between 10 to 16 hours, depending on the wetness of the material. Some factories will gently hasten the process with the aid of warm air fans.

Third, the withered leaves are squeezed between metal rollers to blend the naturally occurring chemicals inside.

Fourth, the broken leaves are laid out either on trays or in troughs in a cool, humid atmosphere for 3-4 hours to ferment (or oxidise) and are gently turned every so often throughout the period until they turn a golden russet colour and oxidisation is complete.



Finally, the leaves are dried or fired to stop further oxidisation and remove any remaining moisture. This is done by passing the broken leaves slowly through hot air chambers where all the moisture is evaporated and they turn a dark brown or black.

There are many different kinds of tea. Two of the most well known basic kinds are 'green' teas and 'black' teas. Green teas are created when the withered leaf is steamed and rolled before drying or firing. This is done to prevent the veins in the leaf breaking and thus stopping any oxidisation of the leaf. When brewed, green tea has a very pale colour and the wet leaf is often left whole. Black teas are made by allowing the leaves to completely oxidise. Most of the tea drunk in Britain belongs to this category. However, there are many other categories and types of tea, some of which are included in this box.



Some Teas

1.Jasmine tea is a herbal infusion and not, strictly speaking, a tea! It is not made from the leaves of *Camellia sinensis*, but from the leaves and flowers of the jasmine plant. It is very popular in China.

2.Darjeeling tea is a black tea which comes from Darjeeling in West Bengal. Commercial production in Darjeeling began during the 1850s. There are many tea estates (also called tea gardens) in Darjeeling, each producing teas with different character in taste and aroma. The photograph below shows the Happy Valley estate which was established in 1854.



3. Gunpowder Tea is a form of green Chinese tea produced in Zhejiang Province of China in which each leaf has been rolled into a small round pellet. It is believed to take its English name from the fact that the tea resembles gunpowder pellets used for cannons. Gunpowder tea dates back to the Tang Dynasty (AD 618-907). Originally the individual leaves were rolled by hand, but today most gunpowder tea is rolled by machines (though the highest grades are still rolled by hand). Rolling the leaves allows them to retain more of their flavour and aroma.

4.Sencha Bancha is a common green tea in Japan made from leaves that are exposed directly to sunlight and are left unground. There is sencha gyokuro and sencha bancha tea. Gyokuro is expensive and is drunk very slowly to savour its distinctive flavour. 'Bancha' in Japanese means 'common tea' - so this is the everyday variety.

5.Lapsang souchong is a black tea originally from the Fujian province of China. Originally the leaves were withered over pine or cedar fires and then dried in bamboo baskets over burning pine. The result was a smoky, robust tea with an overriding scent and flavour of wood smoke. The name in Chinese means 'smokey sub-variety'.

6.Assam. Assam produces more than half the tea grown in India. This popular tea has a malty flavour and a strong, bright colour.



7.Russians began growing tea in favourable areas of their empire in the late nineteenth century. The photograph on the right shows workers gathering tea in Georgia in about 1910. Russians make tea using a samovar (below), an urn, with a small pot on the top in which lots of tea leaves are placed along with boiling water. This creates 'zavarka', a concentrated brew which is used throughout the day and even the following morning for breakfast. When someone wants a cup, a small amount of zavarka is poured into their cup followed by hot water from the samovar to dilute it. This requires a loose black tea which will not go bitter if left to stand for several hours.



8.Earl Grey tea has a distinctive flavour which is created by the addition of oil extracted from the rind of the bergamot orange. It is named after the 2nd Earl Grey, Prime Minister of Great Britain from 1830 to 1834. There are various legends about the origin of this tea, such as it was given to Earl Grey by an Indian raja after his son was rescued from a tiger by one of Grey's servants.

9.Indian Tea Bag. The earliest examples of removable infusing devices for holding tea were not bags. Popular infusers included tea eggs and tea balls - perforated metal containers which were filled with loose leaves and immersed in boiling water, and then removed using an attached chain. In around 1908, Thomas Sullivan, a New York tea merchant, started to send samples of tea to his customers in small silken bags. During the 1920s these were developed for commercial production and tea bags grew in popularity in the USA. It was not until the 1950s that tea bags took off in Britain. The first were introduced by Tetley in 1953, but other companies soon latched on to the idea. In the early 1960s, tea bags made up less than 3% of the British market, but by 2007 tea bags made up 96% of the British market.

10. Yerba maté. Like jasmine tea, this is really a herbal infusion. Yerba maté is derived from a species of holly (*Ilex paraguariensis,* right), native to subtropical South America in Argentina, eastern Paraguay, western Uruguay and southern Brazil. It is regarded as the national drink of Argentina and Uruguay.





Maté is served with a metal straw from a shared hollow calabash gourd (left). The straw is called a bombilla in Spanish and is traditionally made of silver.

To make the drink, leaves and twigs from the yerba maté are dried with a wood fire, imparting a smoky flavour. Then the leaves and sometimes the twigs are broken up to make a rough mixture (below right).The gourd is then filled one-half to three-quarters of the way with these leaves. Additional herbs are sometimes added for either health or flavour. Many people choose to pour warm water into the gourd before adding the bombilla, while others insist that the bombilla is best inserted into the dry leaf mixture. Whatever the case, the drink is said to have a pungent taste - a cross between green tea and coffee, with hints of tobacco and oak yummee. It is sucked through the bombilla, the holes in the lower end stopping the leaves being taken into the mouth.





Maté is traditionally drunk in family gatherings or with friends. The gourd is passed from person to person, each drinker emptying it completely before passing it on. The server (known in Spanish as the cebador) refills the gourd with hot water and passes it to the next person who likewise drinks it all. The ritual proceeds around the circle the until the maté becomes 'lavado'(washed out/flat). This may happen after the gourd has been filled about ten times or more, depending on the quality of the leaves used.

Tea Tasting Cup



Tea tasting is a craft which takes years to learn. It is used by both commercial buyers who want to test the quality of batches of tea which are auctioned by the tea growers and by the blenders who mix the various lots after they have been bought. The photograph on the left shows a tea auction in Colombo, Sri Lanka.



Tea tasting is an elaborate, but consistent procedure. Each cup comes with a tasting bowl - contrary to appearances the cup is used to brew the tea! All the cups and bowls are the same size so that each batch is treated equally. Dry leaves (carefully weighed) are put into each cup and also laid out in containers on the tasting bench. Boiling water is then poured into the cup and the lid is quickly placed on top. Each brewing is carefully timed for 5-6 minutes. The lid is held in place and the brewed tea is then poured into tasting bowls through the small perforations on the lip of the cup. The infused leaf is tipped onto the lid of the brewing mug. The taster slurps the tea much as a wine taster does, then rolls the liquid around their mouth to assess the flavour before spitting it out into a spittoon. The taster also takes into account the appearance of the dry leaf, the infused leaf and the colour and quality of the liquor - the bowls are always white, so that the colour of the tea can be appreciated.



If the tea has been tasted by a buyer then they will place a value on it based on market trends, availabilty and demand. If the tasting has been carried out by a blender they will use the results to make and test their blends. Most teas are blended that is they use material from a variety of plantations. Even teas from the same plantation will vary slightly in taste from season to season. The aim of blending is to create a consistent taste so that the consumer always has the same tea tasting experience.

Continued on next page.

Hands On Learning
with Reading Museum Service

READING MUSEUM SERVICE

TEA G84/A

Approximately 90% of the tea drunk in Britain belongs to popular blended brands. Each popular blend has its own recipe and that recipe is the company's trade secret. During the course of a day, a taster can sample between 200-1,000 teas, adjusting their recipe to ensure that the company's brand remains constant. The blender's findings are fed into a computer and the requisite number of sacks and chests of the different teas are taken from the company storeroom, opened and conveyed into a large blending drum. This rotates, mixing all the teas together. When the blending is complete, the blend is ready for packaging into packets or tea bags.



Two Tea Caddies

Traditional Chinese and Japanese tea caddies were ceramic or made of lacquer work. They were used to keep the tea dry. The name caddy is thought to derive from the Chinese word for a unit of weight equivalent to a pound (0.5kg). Tea is often sold in tin caddies like these so that it can be given as a gift. These two use Chinese motifs and imitate oriental lacquer work.



The larger tin has the remains of a label of tea company based in the Minories, in the City of London. This is not far from Mincing Lane, which was the traditional centre of the British tea trade. In 1834, when the East India Company ceased to be a commercial enterprise and tea became a 'free trade' commodity, tea auctions were held in the London Commercial Salerooms on Mincing Lane. Tea merchants established offices in and around Mincing Lane, earning it the nickname Street of Tea.



The smaller of the two was made for the Chung Lam Tea Company and held jasmine tea. It may have been part of a gift set, with different flavoured teas in separate small tins.

Tin tea caddies were also made to be sold separately, or by makers of different products altogether. The picture on the left shows an elaborate tin tea caddy made by Huntley & Palmers in 1928 which originally held biscuits.

Hands On Learning
with Reading Museum Service

TEA G84/A



This model represents a tea picker from India or Sri Lanka. In Africa, tea pickers are often male - but in India, China and Sri Lanka they are always women. They generally work at harvesting tea six days a week, eight hours a day. On every tea estate there will be hundreds or even thousands of tea harvesters.

At the beginning of the working day all the pickers gather at the place where the harvesting will start that day. They carry large wicker baskets that strap across their foreheads with the baskets hanging down their backs. In the Darjeeling area, the women often carry umbrellas for protection against the rain and intense sun.

Tea plants are kept at a suitable height so that harvesting can be accomplished without extreme bending of the back. The process of harvesting is simple - the picker slips her fingers under the new growth, twists and pulls up two leaves and a bud. These are thrown into the basket on her back.

Three or four times a day the pickers take their basket to an area where the leaves are looked at for quality (no poorly harvested leaves are accepted), weighed and recorded. The days during harvest are much the same. During the relatively short off-season, pickers will often mulch the fields, apply compost, trim the tea bushes if needed and do other general field work.

Conditions vary from estate to estate. Here is how one picker, Sivapackiam from Sri Lanka, who has worked on the same estate for 23 years, describes her life: 'Our biggest problem is that we have too much to do. In the morning we prepare meals and get the children to school. We have no time even to eat. I have to work very fast, so I get very hungry. We have to carry 10-15 kilos of tea to the weighing place, which can be three quarters of a kilometre away. After work it is the same - we have to do all the cooking and collecting firewood and getting water. We eat rice and one vegetable. We would like to have two or three vegetables but we cannot afford it. Towards the end of every month we find it difficult.' On the other hand, some fair trade organisations attempt to make conditions better for the workers on the estates which supply them with tea.

