CLIFTONSUSPENSIONBRIDGE

How was the Avon Gorge formed?

The **Avon Gorge** was formed during the last ice age. While everything was frozen, enormous glaciers blocked the original route of the River Avon which meant that the river needed to cut a new route. The easiest way through for the river was through soft rock – the **Carboniferous Limestone** of the Gorge.

The walls of the Gorge have lots of joints (vertical cracks) and bedding planes (horizontal cracks). These cracks make the limestone pervious, meaning that it acts like a sponge allowing water to travel through it.

The Downs which line the gorge are today much different to the landscape that existed before the bridge was built. A hundred years ago the people of Clifton had the right to graze their animals on the Downs and visitors here would have been surrounded by sheep.

Francis Danby, Yale Center for British Art, Paul Mellon Collection

The sheep ate the saplings which grew from seeds as well as small plants and bushes – which meant that the Downs were an open grassland. There were no trees along the cliff edges.

There were also several mines and three large quarries. **Lead, iron, manganese and calamine** were all mined on the Downs. Quarrymen would chip away at the rocks, sending them hurtling down the cliff where people strolled below. Sometimes, explosions would echo through the Avon Gorge.

It is known that Brunel spent much time surveying the location before working on his designs to best ensure the dramatic effect of the Bridge whilst not impacting the beauty of the Gorge.

Brunel submitted two designs that used the natural rock of the Gorge as the stronghold to pin the anchorage points of the chains, which would get rid of the need for large towers, could cut costs and would be a popular idea for those who were concerned about the conservation of the wildlife in the Gorge. Brunel also included tunnels in his designs for the roads on to the bridge, ensuring the least impact on the beauty of the surroundings.

During excavation of the ground on the approach to the bridge in 1831, the wife of site-engineer William Glennie, alerted Isambard Kingdom Brunel to the presence of **Autumn Squill, a rare plant**. Brunel immediately ordered workmen to carefully remove the bulbs and take them to a safer and less accessible location.

The Gorge is home to many rare plants and animals. It is a designated Site of Special Scientific Interest (SSSI): one of the country's very best wildlife and geological sites.

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