

WESTON WOODS

Fringing the top of the Quarry, Weston Woods were planted in the 1820s by the Lord of the Manor who owned the whole hilltop. They were intended as an ornament and game reserve, but also as a contribution to replenishing the national timber supply after the Napoleonic Wars. Before that the hill had been bare grazing land and would have looked much like Brean Down or Middle Hope today. Even that landscape was the result of centuries of human activity. In most of Britain the natural 'climax' vegetation (what would be found growing if the land were left to itself) is woodland. After the last Ice Age mature trees covered most of the country. Clearance began in Neolithic times, for settlement and farming, and continued throughout much of recorded history. Clearance of the woodland was still going on at the end of the Middle Ages. But the 'wildwood' was preserved in places as managed woodland, because timber was an important material and fuel. There is believed to be a pocket of this ancient managed woodland above Ashcombe, now absorbed among the 19th century planting. Modern management of the woodland involves periodic thinning of the trees and the timber brought out has been made available for sale in the Quarry, together with woodchip and charcoal.



WILDLIFE

The Town Quarry has partly gone back to nature since its closure in 1953. Its plant life is a mixture of wild species and 'escapes' from gardens. Land at the foot of the quarry face is fenced off, for safety reasons and to allow an area for wildlife to flourish undisturbed. Limestone-loving plants proliferate. Buddleia abounds and is popular with butterflies: a wide variety can be found here. Birds include garden and woodland species as well as those that haunt cliff faces. Foxes and smaller mammals live in the Quarry and frogs and toads emerge and spawn in any available water in the spring. A Nature Trail leaflet gives more details of the wildlife that can be found here.

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Town Quarry

Weston-super-Mare



A Site in Limestone Country



90p

The limestone of the Mendip Hills and their northern outliers and islands began life some 50 million years ago in the Carboniferous period. Tropical seas covered the area and limestone is a sedimentary rock, laid down in calm water as lime-rich shells and skeletons of fish and amphibians accumulated on the sea bed.

Limestone formed in clearly defined layers or 'strata', corresponding to periods of deposition. The sea was tropical because at that time our area was close to the Equator. The Carboniferous period was brought to an end by a movement of the tectonic plates which form the earth's surface. This cataclysm at once moved 'Europe' to its present position and tilted and buckled the rock strata into great mountain ranges, subsequently much eroded. Thus, when the strata are exposed, in a quarry or a natural cliff, they are usually very far from horizontal. Pressure has also produced 'faults', one of which runs through Worle Hill and is discernible in the exposed rock face where the beds on one side of the fault line appear some 40 feet lower than the equivalent beds on the other side.

Although it is a very hard rock, Carboniferous Limestone is susceptible to chemical attack. Rainwater absorbs carbon dioxide from the atmosphere or from the soil and forms a dilute carbonic acid, which tends to dissolve the rock, exploiting lines of weakness, and create hollows and caves. The Mendip Hills contain some particularly impressive and famous cave systems, but many smaller examples exist locally including two in the Town Quarry.

Water falling as rain works its way underground in limestone hills, often emerging in the form of springs at lower levels. Many local villages originated as settlements on this 'spring line', including Weston itself which grew up around such a site in what is now Grove Park. The network of bedding planes, joints and faults in limestone provides an ideal system for circulation and deposition of minerals and there are local veins of lead, zinc, iron and fluorspar. These metal ores had begun life as sea salts, becoming trapped as the shells and skeletons which they

encrusted turned to stone. Lead and calamine were mined on the hill, chiefly near the hillfort and above Milton. Calamine is a zinc ore, blended with copper to make brass, and at the end of the 16th century the hill was the centre of national supply, vital for the brass cannons that armed Drake's fleet. Yellow ochre was also mined on the hill and was being extracted in the Hazeldene Road area as late as the 1920s.



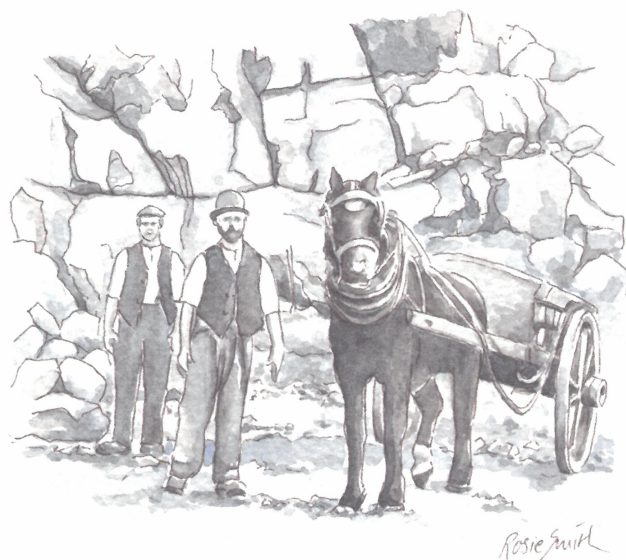
The limestone of Worle Hill is an excellent building stone, noted for its durability. Its earliest known use was by the Iron Age settlers of Worlebury. They built great ramparts of dry stone walling. A large and well organised labour force would have taken loose stone lying on the ground, but their mastery of iron meant that they had tools which could cope with extracting stone from beneath the soil:

the ditches from which the stones had to be dug remained as an outlying circle of defence for their hillfort.

Apart from defensive works and, in the Christian era, churches, very little was built of stone until relatively recently. The country was well wooded and timber was the natural building material. By the end of the Middle Ages the long, laborious clearance and colonisation of 'wild' England was largely complete and a period of sustained wealth led to an increasing use of stone for buildings which would not earlier have seemed to merit the cachet it bestowed. Many small local quarries opened in the reigns of Elizabeth I and James I and by 1700 stone had become the accepted building material, even for quite humble houses. From this period comes the classic scenery of farms and cottages hewn out of the local hills that surround them.

Small quarries, serving only their immediate localities, often began, for convenience, at naturally exposed outcrops of rock. The natural cracks might be widened with wedges and sledgehammers so that large blocks could be levered away. It seems probable that Weston's quarry began like this even before its appearance in the earliest drawings of the village made in 1815. It was a traditional 'parish quarry': the right to win stone there was allocated, by the Enclosure Award of that year, to the owners and occupiers of 'auster tenements'. In 1875 there were 200 people claiming this right. Many buildings in the booming Victorian resort were made of stone won by these independent local quarrymen, who combined this activity with other trades, especially fishing. Dark Lane (now Grove Lane) by the side of Grove Park, was the villagers' time-honoured way up to the Quarry, and it was kept open by force of local opposition when the Lord of the Manor tried to close it. It was envisaged that Enclosure would lead to an increase in demand for stone not only for the growing town but for new or improved roads and for many miles of walls which would literally enclose previously open land for the new owners. Some of the more impressive villas on the hillside are built in their own private quarries, but it was the Town Quarry

that provided most of the stone for the extensive building developments of the 19th century. The stone is predominantly grey in colour but blocks of pink limestone, stained due to the presence of iron, were in special demand for ornamental purposes. One mansion, built entirely of pink limestone was named 'Villa Rosa'. The bridge which linked the house to part of its garden can still be seen spanning Shrubbery Road.



Limestone from the quarry was roughly squared or 'dressed' with a sledgehammer for use in the more prestigious buildings, or used as irregularly shaped 'random' stone in the cheaper villas, outbuildings and garden walls. The sheer impossibility of cutting it precisely led to the use of alternative materials for the door and window openings of houses, the 'quoins' or corner stones, and for decoration. In some cases brick was used, but in the 19th century town the favourite was a softer form of limestone with a finer grain, more easily sawn and carved. This comes from more recent strata and is generally called Bath stone, because of its origins near Bath and its use in that place, but Weston builders generally drew on a more local source at Dundry, south of

Bristol. This 'freestone' gave skilled masons an opportunity to demonstrate individual talents in carving and they were much better paid than the average quarryman. The use of the honey-coloured freestone gave buildings a more sophisticated appearance than would have been possible if the local stone had appeared on its own. Some buildings, particularly terraces and crescents inspired by Bath itself, are faced entirely with freestone. But the characteristic combination of the two sorts of limestone was the recipe for Weston's distinctive architectural heritage, especially its hundred of villas which are at once solid and elegantly stylish.

The 19th century quarrymen worked in gangs of two to four men, each with its own particular 'piece' of the stone face. They undertook their own blasting, breaking and haulage. The men had to provide their own tools – sledge-hammers, bars, shovels – and each gang paid for its own explosives. The job began with making a row of holes in the rock up to 6 feet deep and 2-3 feet apart by working an iron rod up and down ('jumping the holes down'). The 'jumper' was shaped like a chisel.



Gunpowder was then poured into the holes, with the fuse bedded in to contain the blast. The fuse was sometimes just wheat straw filled with dampened gunpowder, but from 1831 safety fuse was used which took half a minute to burn one foot. Faggots were used to hold back flying rock. A shelter could be provided for the firer – a modern example exists just inside the wall to the north-east.

The east face of the Town Quarry is the most recently worked and is a good example of the traditional method of quarrying. It reveals a form of 'benching' with the strata worked like giant steps. The men descended the 'steps' on ropes, preferring to work on a flat surface. Holes were sunk through each layer of rock without touching the one below. Shot holes can still be made out in places in this face.

The blast could lift out many tons of rock and more could be barred down after the firing. It was then broken with hand tools, usually 18 pound or 28 pound sledgehammers. Skilled 'old timers' could dress stone with a hammer ready to go straight into a wall.

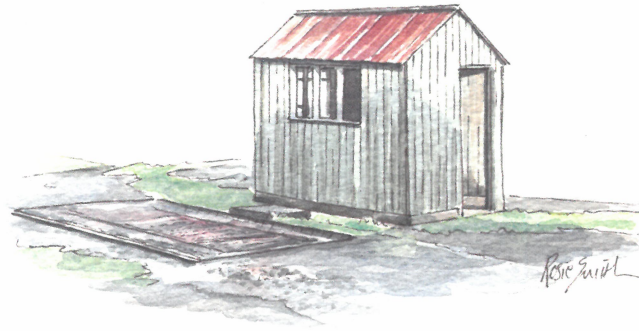
The stone was loaded into wooden skips or drays and pushed on narrow gauge railway tracks to loading bays, or else taken away directly by horse and cart. Alternatively it might be crushed for use in road making. Each cart was drawn by a single horse. Conditions were harsh: the 'roads' to the face were nothing more than heaps of quarry rubbish and the horses sometimes fell between them as they dragged the full carts away.

There were often accidents to workers, sometimes fatal. In 1844 John Day was killed by a premature explosion of gunpowder. In 1886 Edward Vile was killed. In 1923 Charles Harvey was killed when he was struck by a stone while working at the face.

There were frequent protests from the occupants of the fashionable villas nearby, who resented the intrusion of noisy industrial activity into their leafy calm. In 1875 a petition was signed by many of the town's leading

citizens. The Town Commissioners felt unable to do much because the quarry had been there before the houses, which, for that matter could hardly have come into existence without it. Throughout the 19th century the rising bourgeoisie provided a continuing demand for building stone and the available labour was augmented by immigrants from surrounding villages, glad to find work when agriculture was going through a depression.

Quarrying was generally a conservative industry, slow to take advantage of modern equipment. Mechanisation only really took hold towards the end of the Victorian era. Compared to other quarries, though, Weston's Town Quarry seems to have been quite up to the minute in this respect.



Road building had been taken over by the Board of Commissioners once Weston became a town in 1841. A steam crusher was acquired in 1868 and replaced 12 years later with a new version together with a 10 ton road roller. In 1880 it was estimated that Weston had 25 miles of road to maintain and the town was still growing, so the Town Commissioners, and later the Council, needed such equipment to keep pace with the task of keeping the network in good repair. Soon after this date a new tarmac plant was installed which could produce up to 40 tons a day. The demand for road building materials continued to expand although the era of stone buildings was to decline in favour of cheaper mass-produced materials which could be swiftly moved around the country on the rail network.

In 1914 an extra acre was taken into the site on the eastern side, and in 1916 the quarry was extended and new plant installed. The weighbridge, with its wooden hut housing the scales, was installed by 1920.

The period from the 1890s to the 1920s was the heyday of steam power in quarrying, both for plant and for haulage; towards the end of the period there were already plans to use an electric motor in the Town Quarry to drive a mixer and crusher.

By 1923 compressed air for drilling was introduced and there was electricity in the Quarry as a power source. This period saw more sophisticated crushing and screening processes. The use of high explosives and electric-firing streamlined the process. From the 1930s chippings, previously regarded as rubbish, were required in large quantities. The complex of buildings nearest to the quarry face was erected in 1931 for the relocation of the crushing, screening and tarmac plant. The use of reinforced concrete for the roof reflects the relative danger from flying rock during blasting. There is a fine engine house and hoppers for the graded stone.

The Council had gradually bought out the independent quarrymen, the last one in the 1930s, and during the inter-war years up to 40 men were at work in the Quarry, all employed by the Borough Council. The Council decided to close the Quarry in 1953 because it could obtain materials more cheaply elsewhere. Several unsuccessful attempts were made to dispose of the site for development, but in the 1980s Weston Civic Society persuaded the local authority to grant a lease of the site and began to clear it and carry out a planting programme. The building on the right of the entrance has been substantially restored and is let as studios to artists and craftspeople, with an exhibition space. This late 19th century building received its clerestory when it was converted for tar macadam production; from 1930 it was used for the manufacture of concrete products.



LIME KILNS

No trace has been found of a lime kiln in the Town Quarry, but remains can be inspected at several local sites. Limestone (calcium carbonate) was burned to produce quicklime, which could be used on ploughed soil as a 'sweetener'. Alternatively, slaked lime was produced by pouring cold water on the lime, producing heat and causing the lime to crack and boil. The resulting slurry of hydrated lime (calcium hydroxide) was used for lime-washing cottages to keep out the damp. It was also used to make lime putty, or watered down for mortar.

Broken stone was loaded into the kiln from the top, over a layer of small coal or wood. This was lit from below and might be topped up with alternate layers of stone and fuel to burn continuously for days or weeks. The lime was raked out of a small opening at the bottom which often had a lean-to shed against it to allow the draught to be regulated and to protect the men and the newly burnt lime from the weather. To slow the rate of burning, at weekends for example, a foot or so of dust was put on the top, to be scraped off again later.