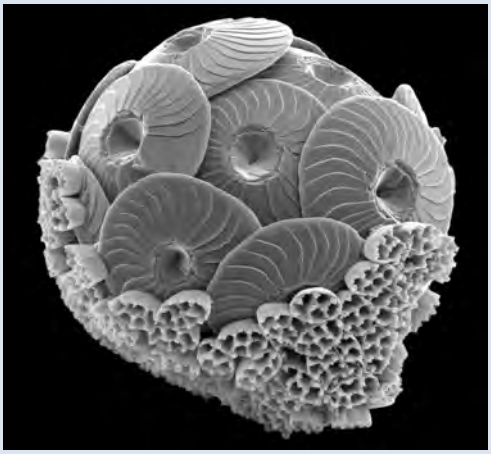
Chalk Links in the North Wessex Downs

"Chalk Links" Fact Sheets:

Geology groups across the region have produced a series of fact sheets explaining how the underlying chalk affects other characteristic features of this unique area including landscape, soils, land use, industry, hydrology & archaeology. Other fact sheets in this series can be downloaded from: www.northwessexdowns.org.uk

FACT SHEET: CHALK AND INDUSTRY



About half a million of these coccolithophores would fit on a pin head! This is what chalk is made up of.

Entrance to chalk mine at Yattendon

Brick from Kintbury

What is chalk?

Much of the North Wessex Downs is underlain by chalk. Chalk is a soft white limestone which contains layers of flint. It consists of minute calcareous shells which are the remains of plankton that floated in clear, sub-tropical seas covering most of Britain during the Upper Cretaceous, between 95 and 65 million years ago.

Chalk and agricultural industry

The chalk downs are associated with sheep farming and the grazing of sheep keeps the grass at a manageable level. Sheep farming led to the associated wool industry, with many fulling mills and weaving sheds/buildings.

Dairy cattle are more associated with the sands and clays adjacent to the chalk and the saying '*like chalk and cheese*' may have derived from farms in Wiltshire. One set of farms dealing with sheep and wool and the others with dairy produce.

Although at present there are only a few small vineyards producing wine in the region this is likely to increase in the not too distant future. Chalk soils are ideal for certain grape varieties and are well drained so the ground does not become waterlogged.

Why are there chalk mines?

Although chalk was mined or quarried for agricultural purposes to improve soils, in many instances chalk mines are associated with brick making. In 1850 Edward Dobson noted that bricks and tiles made from the Palaeogene sands and clays were not as 'pure and fat' as those made from London Clay. To remedy that, chalk, having been ground in a wash mill, was added to the mix. The maximum chalk content recommended is 25%. Too much and the brick will fall apart because of the uncombined lime which 'blows and disintegrates the brick'.

Up until the end of the 19th century most brickyards were small and only worked when there was a local need and almost all are found close to the boundary between the Reading Formation (from which the clay was dug) and the Chalk. The remains of mines can still be seen at Yattendon and elsewhere around Reading but many remain undocumented.

During the 17th and 18th centuries handmade bricks were used mainly for the building of manor houses, inns and public houses in the area. During the 19th century changes in tax on bricks and a demand for better housing also meant increased production.

NORTH WESSEX DOWNS AREA OF OUTSTANDING NATURAL BEAUTY

Big CHALK

BERKSHIRE GEOCONSERVATION

Chalk Links in the North Wessex Downs

The Pot Kiln at Frilsham. There was a kiln here where bricks were made from nearby sands and clays and chalk from the valley.

Typical red bricks and tiles made at Kintbury from local sands, clay and chalk.

Rough field flints used in a wall at Marsh Benham.

Whiting

Whiting (or whitening) was manufactured at several sites within the AONB where the chalk is very pure. It is made by grinding and washing the chalk in water, allowing the fines to settle. The sediment is then dug out and moulded by hand into cakes or balls which are then dried.

Whiting was used in the making of paint, colour washes, talcum powder and various domestic products. Whiting was also used to bleach the ship sails.

Kintbury and the brick and whiting industries

Chalk was excavated at Kintbury for whiting for many years. In 1862 it was noted that :

'at Kintbury there are five manufacturers of whiting one of whom makes 600 tons per annum. In total about 1800 tons is made. Formerly it used to make 30s. per ton, now it only sells for 8s. per ton.....the trade in this article greatly facilitated by the economical mode of transport by canal direct to Bristol'

By 1905 there was only one factory in the village at Kintbury Mill and the price had droped to 1s. per ton. Other works slightly further away in Inkpen Road and at Irish Hill continued until the 1940s.

There were several small brick works around Kintbury which supplied most of the local needs. By 1900 these were run by George Thomas Killick and both bricks and tiles were produced. The moulds bore the initial 'G T K Kintbury' and samples can be seen in Kintbury and adjacent villages. In this area brickmaking died out in the 1920s although it continued elsewhere in Berkshire.

Flint bands and nodules are found in the chalk. Flint is a form of silica and so is very hard and resistant to weathering. Roughly trimmed and more extensively knapped flints can be seen in buildings across the area. The church towers at Welford and Great Shefford are round as it is difficult to shape corners using flints. In general other hard building stones must be used for corner stones. Field flints were also collected over the downs and sent to London for glassmaking until the middle of the 20th century.

Other uses of chalk

In some areas of the AONB chalk has been used as a building stone and this is detailed in the 'Factsheet' on buildings. There is evidence of its being burnt for lime at several localities so that it could be used for mortar or soil improvement. Around Lambourn and Bedwyn the hard bands of chalk were used for road surfacing and it is said that the hard chalk of Bedwyn is the best metalling material in the district, the surfaces being hard and free from dust. Chalk is also used in the production of cement, an industry that is still important in parts of the area.

For more information on:
Berkshire Geoconservation Group http://www.berksgeoconservation.org.uk