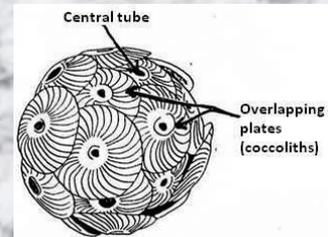


Stories in Stone

The Chilterns harbour some amazing 'stories' in the very stones that make up the hills and lie within its dry valleys. Did you know:

Δ Chalk is the result of a massive global warming from 95 to 65 million years ago. During this time sea level rose more than 300 metres above its present-day level and flooded large areas of the world, including what was to become Britain. Tiny plankton called Coccoliths bloomed in this warm, shallow sea. Thousands of these algae would fit on a pin head – so how many are in the hundreds of metres of Chalk in our Chiltern Hills?



Δ Flint is very pure and very fine quartz. It grew on or just within the chalky sea floor from about 80 to 65 million years ago. Many flints contain cavities which are fossils – sponges are the most common, but there are many other fossils such as sea urchins or sea shells preserved in flint. This is because flint is the result of the sea suddenly having no oxygen – and a lack of oxygen kills living things, hence the large number of fossils in flint layers.

Δ Sarsen stones come in two forms – sandy and pebbly types. Famous ones are named from where they come from: Denner Hill Stone and Bradenham Puddingstone are good examples. All sarsens formed from rivers flowing over a semi-arid landscape. The 'Chilterns' of 40 million years ago was once just like the Kalahari of today.



Δ Sarsen stones were often called 'growing stone' or 'breeding stone' as it appeared that they could mysteriously multiply in ploughed fields from seemingly nowhere. For this reason they often had superstitions attached to them and sometimes chosen as pagan idols.

Δ The Chiltern Hills are very new. The Chalk remained completely flat when climate returned to normal and sea-level fell again 65 million years ago. It became an area of waterlogged soil, occasionally crossed by rivers, but it still remained very flat. In fact, there were no Chiltern Hills until about half a million years ago! By this time the rock layers of Britain had been tilted (due to Africa bumping into Europe) which gave us an erosional edge – the escarpment. But then a tragedy hit Britain – the Ice Age.



Meltwaters cut down into our tundra landscape. Melting snow collected as rivers and ran over the frozen ground cutting down into what we now call dry valleys. In this way, the Chilterns gradually gained their lovely rounded hills and network of valleys.

Δ There are **river pebbles** on the *tops* of the hills in the Chilterns. This defies logic as rivers always run downhill and in the valley bottoms. However, the rivers that left these pebbles high and dry were flowing over the Chalk before the hills were cut in the Ice Age. The Thames, for instance, has left its oldest river bed up at Nettlebed.



Δ **Ancient people** from 6000 years ago walked the entire length of the Chilterns along the Ridgeway path almost entirely keeping to just two beds of the Chalk. These beds are called the New Pit and the Holywell Nodular Chalk (the Middle Chalk) and the sinuous path hardly ever veers off them, except for crossing rivers or dry valleys. These afford a well drained path with fewest trees to block the way. Ancient people certainly knew their geology!

Δ **The Romans** knew a good rock for grinding corn and this excellent choice is local puddingstone from the Hambleton Valley, used in Yewden Roman villa in Hambleton. Grain goes in the hole and with a lot of 'elbow grease' the stone turns on a lower stone (missing) to produce flour.



Δ **One of the first farmers** in Bucks, possibly around 4000 years ago, took a good deal of time to rub and polish this piece of flint to make it into this smooth, streamlined polished axe. These were highly prized items. What were they used for and what did they do with them? They simply buried them! We can only guess what they may have meant to these ancient people – we can never know what they were thinking, but we do have their tools, and in the place they left them. The rest is guesswork.



Stories in Stone was funded by the Chiltern Conservation Board. The project covered a building stone survey of Chilterns buildings, investigating sarsens, researching the Ridgeway and Icknield Way and sharing interesting facts. For more information see:

www.chilternarchaeology.com

