

Wargrave Local History Society

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Chalk, Caverns and Commandos - Rob Wallace

Rob Wallace is a retired geophysicist, and so was well qualified to explain to a capacity audience the formation 94 million years ago of the chalk that lies below our part of the Thames Valley, and the uses to which these deposits and the workings were put in later times in a well-illustrated presentation.

Rob began by explaining that the time scales referred to by geologists are different to those in 'normal' use. Like the line from the hymn 'A thousand ages in thy sight are like an evening gone', to most people 1,000 years is a long time, but in a geological context it is 'recent', and 'a million years is neither here nor there' he said for geologists.

The area of what is now the Thames Valley was quite different 94 million years ago, and was much more like the Florida Keys are now, with shallow and warm waters - the earth being in one of its warmer eras then (even compared to now). The subterranean tectonic plates that form the earth have moved from where they were then, and so what is now the United Kingdom was then close to Greenland, but at a similar latitude to Florida. It was in the large areas of quite shallow water, which was relatively static as there were no rivers flowing into it, that the layers of chalk were laid down. Microscopic marine creatures, some fish like, some more like sea anemones, formed millions of fossils when they died (so small that 400 million would fit onto a £1 coin) and these settled on the bottom of these shallow watery areas creating a calcareous ooze that in time became chalk. These dust like particles would gradually build up, creating layers several mm thick in the course of 1,000 years, and eventually quite significant thicknesses of chalk were laid down on the ocean floor.

Over time, the tectonic plates moved, and the water levels changed. A geological map of the UK shows that the oldest rocks are to the north and west, with younger ones to the south and east. For the area to the south east of a line drawn from Flamborough Head, in Yorkshire, to the Dorset coast, the underlying strata is chalk. In some areas there are younger rocks overlying the chalk - the chalk under London, for example, forms a large basin shape which has other material as infill, but around 65 metres below Trafalgar Square will be found the chalk layer. The Reading area (including Wargrave and Emmer Green) are on the upper chalk layer (with areas locally having what are known as the Reading formation above the chalk). At the time these upper chalk layers were formed, what is now Reading was like the Everglades - sub-tropical coastal marsh, and the chalk is very clean with very little grit or wood derived particles in it (the Reading formation is rather denser, with more vegetation evident in its make-up). About 470,000 years ago at the end of the Ice Age, when the glaciers melted the water spread everywhere (not in defined channels or rivers), carrying a lot of material like gravels and clays, and iron oxide and the retreating ice made a tundra like landscape, as seen now in northern Canada or Russia. These areas had more static pools of water, in which were formed deposits of bog iron.

Having outlined the formation of the rocks beneath our feet, Rob then moved to the history of how these were used locally. In Tudor times, people started to move more to live in towns, and so needed buildings to live and work in. Many houses were made at that time of timber and plaster, with only wealthy people able to afford to use longer lasting stone. However, there was great pressure on timber as a resource, as it was used not only as a building material, but for heating, and for industrial needs. Stone was expensive to obtain and transport to areas like the Thames Valley, so its use was limited to be used in buildings of stature. A solution was found in the making of bricks. The main ingredients needed were silica, clay, lime, iron oxide and magnesia. In this area, all those materials could be found in the chalk or the younger rocks above it. The Reading area became famous therefore for the production not only of beer, biscuits and bulbs, but also brick - the name Tilehurst reflects that - whilst Thomas Hardy in *Jude the Obscure* called the town Aldbrickham.

Many of the more substantial buildings in the Reading area are built of local brick, and whilst evidence of this industry can be seen in the large number of brick-built houses both to the east of the town centre and to the west. However, although bricks are relatively cheap, they are heavy, and a cart could only carry about 200 at a time, and each house would need several thousand of them. This led to brick making works being set up locally to minimise the cost of transport. When, for example, the new brick-built cottages were constructed in the 19th century at Nuneham Courtenay, north of Wallingford, a cart had to make the journey twice a week, returning the following day, although when a steam traction engine was employed it could make the return trip in a day. Bricks are known to have been made in the Reading area from 1700, maybe earlier, and the last brickworks, at Tilehurst, continued in operation as late as 1967. In the mid-Victorian era a firm such as the Caversham Tile and Brickworks could produce half a million bricks a year. Although that seems a lot, it represented only 100 - 200 houses, so Reading needed many such places to create the growing town

To provide the chalk that was needed for the brick making industry, there were several mines under and around Reading. One of these was located at Milestone Wood, at the top of the hill from Caversham at Emmer Green - where the workings run under Kiln Road. The 89th Reading Scout Group occupied premises in Caversham, and when a company wanted to develop that area, they provided a new Scout site at Emmer Green. It is on this site that the entrance to the mine is now located (an earlier entrance still exists, retained for bats that live there). The extensive range of tunnels are about 20m below the surface, reached down a vertical steel ladder, and there is a second access point in the garden of a nearby house that is kept available in case alternative access is needed in an emergency.

Down below, there is no lighting installed, but soot spots are evidence of the candles that the miners used as they worked. The tunnels lie in the upper chalk strata, which is very white and clean with some layers of flints inside. In pre-historic times, flint was a valuable material, but chalk miners want to have little of it, so prefer to extract material from the upper chalk layers. Although the chalk is hard, the workmen were able to remove the rock using hammer and chisel and did not need to use explosives - and some of their tools have been discovered in the tunnels. There is no water in the mine - the tunnels being high above the river level. As in many such caves, there is graffiti on the walls, the earliest date written there being 1776, whilst the names include various notable Reading citizens, such as Dr Valpy, headmaster of Reading School in the pre-Victorian period. There are also various messages from April 1836, which might indicate a special celebration took place there then.



Rob then moved on to the 20th century history of the site. Following the Munich Crisis in 1938, it became obvious war would soon break out, and so plans were made to move children from vulnerable areas, such as the East End of London, and also to save the national treasures, such as the National Gallery. Most of these items were moved quickly to slate mines in Wales that were many miles from any towns or other possible targets. The preparations also refer to the 'Peppard Road disused mine' as a place to store some of the National Archives and possibly some of the Berkshire Archive. It appears that some use was still being made of the location after the war - maybe as late as 1954. When the mine was re-discovered more recently, there was no trace of any archives there, but there were many tea chests and frames used for storage of items that had been protected in a deep dry and safe place. It was somewhere few people knew of, needed few people to look after, and was too far underground for any enemy bombs to affect. A few paper items have been found, such as a sheet about Thames Valley buses from Maidenhead, and a copy of the *Manchester Guardian* reporting 'more

In one of the underground tunnels was found a Nissen hut. In 1940, Winston Churchill felt that if an invasion came, there would be a need for auxiliary units to fight a guerilla campaign against the invading forces. It is thought that - maybe - this was a base for one of these commando units. They were formed of local farm and industrial workers (sometimes referred to as Churchill's Commandos), equipped with modern armaments. In caves little known to other people, there were lots of explosives stored, the aim being to slow down an enemy advance. Another possible use of the hut was as a fallback for the BBC listening station at Caversham Park, but no evidence of any cables etc have been found as evidence for that. Although there were a number of bases for auxiliary units, there is no formal record of where they were.

The brickworks associated with the mine appears to have ceased working during the 1950s, unable to compete with much larger factories that had then been established, and the mine remained dormant for another 20 years or so, until the Scouts set about finding what lay beneath their site, creating the new access shaft, and exploring the underground workings.

This was not the only such chalk mine in the Reading area. One that came to attention a few years ago was in Field Road, off Castle Hill in central Reading, where the roadway and parts of some houses collapsed into an old mine, and it took two years to stabilise the ground and restore the road and housing. The local council is said to have a definite idea of where the others - about 40 - are situated, and therefore avoid putting anything large on top of these old mines.

Rob commented that the chalk pits to be found in and around Wargrave, from similar chalk layers, were probably used for agricultural needs, such as lime fertiliser, rather than for brick making.

For more information about the society, visit the website at www.wargravehistory.org.uk
