Wargrave Local History Society

Latest News - September 2000

Local Geology

In September, the Wargrave Local History Society welcomed Dr Jill Eyers, who gave a most interesting talk on *Local Geology*.

Illustrated by slides, geological maps and specimens, which members were able to examine, Jill began by explaining that although locally it is not easy to see most of the geology (as it is covered by vegetation etc), there are clues around, such as fossils of sea urchins, chalk pits, Palaeolithic hand axes etc.

It has taken around 500 million years to make Wargrave as we see it now, although what we see is the chalk and younger rocks formed during the last 80 million years. However, the events of previous ages have shaped the land, and if we were able to dig deep enough, we would find these older rocks. Elsewhere in the country, these rocks have been tilted, and appear at the surface. Even in the early Cambrian era, there is evidence of the simple lifeforms, as the worm -like animals left burrows. Before the later continental drift took place, 'Wargrave' was much further south, and the lowest rock levels were laid down when the area was near the Antarctic Circle. The rocks include igniinbrites - the products of exploding volcanoes as the land masses of 'England' and 'Scotland' were forced together as they moved north across the globe.

As the land area moved northwards it crossed first the southern and then the northern hemisphere's desert regions. Although now worn away by erosion, there remain sands of desert dunes buried beneath us - indicating that this was then a very barren landscape. Further movement took the land to the tropical zones, where limestones were formed in the Jurassic seas - both limestone and clay being common in the area. Evidence of these rocks can often be found in older buildings, as they were built using materials quarried locally. At the end of the Jurassic era, the level of the sea rose and then fell, when the Oxford and Kimmeridge clays were formed. This was followed by the Cretaceous era - the largest global warming the planet has ever seen - when the water levels were some 200 - 300 metres higher than today. Chalk - a pure limestone - was deposited. The ice age subsequently shaped this landscape, giving rise to 'dry valleys', whilst in other areas coastal erosion exposed great cliffs of chalk, as at the Seven Sisters. In this chalk we also find deposits - often in bands - of flints, which are concretions of silica formed around the decaying remains of some animal life-form such as a sponge.

The chalk deposition then stopped fairly dramatically, the sea disappeared, and mucky reddish clays were left on top of them, containing many fossils, with sands above them (as can be found at Knowl Hill. The way these layers are bedded, with evidence of currents, shows that this area was then a river estuary.

Later, the ice age brought us layers of rounded and angular pebbles, ‘floating’ in clay. These would have been formed at the bottom of the ice sheet. Until that period, the River Thames had flowed further north, towards Ipswich, but the movement of the debris by the ice blocked its path, whilst with the subsequent melting of the ice, the enormous quantity of water cut a new path through the Goring Gap, so bringing the Thames to Wargrave.