Account of Purley on Thames

Geology

Geological History

The underlying geology of Purley can be summed up as gravel on chalk on coal. The gravel beds of the Thames Valley flood plain are relatively recent, dating from around 50,000 years ago. The underlying chalk is very thick extending to 5000 or more feet. This chalk was laid down over many millions of years when Purley was beneath the sea. Beneath this is a rich layer of coal, but with 5000 or more feet of saturated chalk above it, the coal is not very easy to mine.

As the seas retreated the emergent land was drained by a relatively small river with its sources on the chalk downs of Berkshire and Wiltshire. It followed the course of the Kennet to around the Theale area, then swung north to join what is now the course of the Pang until at Pangbourne it swung east towards the River Rhine following the course of the Lower Thames, and flowing as one major river into the English Channel.

Somewhere around the end of the last ice age, possibly 12,000 years ago two major changes occurred. The lake formed by melting ice around the Oxford Region burst through the Goring Gap to provide a much larger flow of water and form the Upper Thames. A watercourse in the Pingewood area which had previously been a backwater of the Thames broke westwards and a new River Kennet was formed, diverting the main flow to the south of the hill upon whose northern slopes Purley lies. It rejoined the Thames to the east of Reading. The Pang was left as a minor tributary of the new Thames and it is possible to see the abrupt right angle turn it makes where the former Kennet was switched off. This occurs just about where the M4 crosses the A340 Pangbourne to Aldermaston Road.

The gravel beds occur along all these watercourses and comprise small pieces of stone washed down by the flow of water. By analysis of the sizes and types of the pieces it is possible to determine where the gravels came from and chart their history, and hence the history of the water courses.

R200101 19/10/18