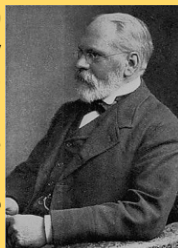


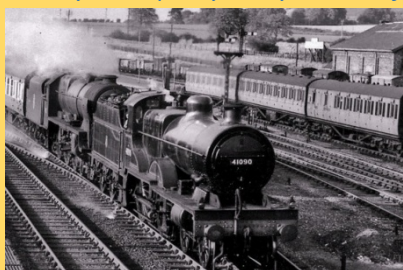
TRING to BERKHAMSTEAD
Cyclist's GEOTRAIL

**RECREATING the DUNSTABLE DOWNS
GEOLOGY CYCLING EXCURSION
of 23rd MAY, 1903.**

WELCOME to this recreation of the route of an Edwardian Geologists' Association geology excursion; one of almost twenty such excursions especially organised between 1899 and 1910 for cyclists. It's mainly presented in the *"words"* of the original published report - updated with background information on the area's geology, railways, and local history - in the *Proceedings of the Geologists' Association*. It was originally led by the eminent Hertfordshire naturalist John Hopkinson (1844-1919), and cycled on a day when *"The weather was perfect, and the route as pretty a one as could well be taken within easy distance of London."* It started from the...



1. Tring (Midland) Railway Station:- When having left London Euston on the 1.45 pm train, the cyclists assembled *"...at 3 o'clock, [in] the party [of 15], which included several members of the Hertfordshire Natural History Society, proceeded (right and, after passing a T-junction on the left, uphill) to the picturesque village of Aldbury... in a pretty valley cut out of the Chalk..."*



Tring Station, on the London to Birmingham - the UK's first ever mainline - railway was opened in 1837; in its first 120 years it only saw (as seen in the 1950s photo) steam trains on its tracks. In June 1908 an accident

killed two young lads when some coal trucks were being loose shunted, in the goods siding. Just north of the station is the 12-metre deep and 4-kilometre long Tring Cutting - 1.1 million cubic metres of clay and chalk was entirely dug out by hand to create it in the late 1830s.

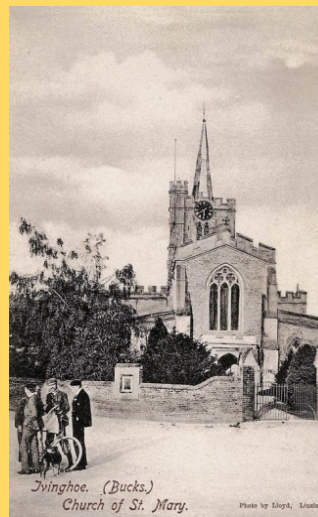
2. at Aldbury:- they noted *"The old timbered houses, and the stocks and whipping-post still standing [seen in the mid-1900s postcard] by the side of the village*



pond... and it was noticed that the hill on the right; where the escarpment commences, is much steeper and rather higher than that on the left, beyond which it ends. The Chalk Rock has been cut through, cropping out near the middle of Moneybury hillside on the right and re-appearing near the top of Aldbury Owers on the left."

3. to Ivinghoe:- leaving the village, the cyclists found that the road north *"...rises considerably, leaving the valley to cross a spur of Pitstone Hill... the run down[hill] to the plain beyond being very steep. Approaching Ivinghoe a view of the church [of St Mary the Virgin] invited a closer inspection, and most of the party deviated from the direct route in order to visit it, others examining a pit in the Lower Chalk ..."*

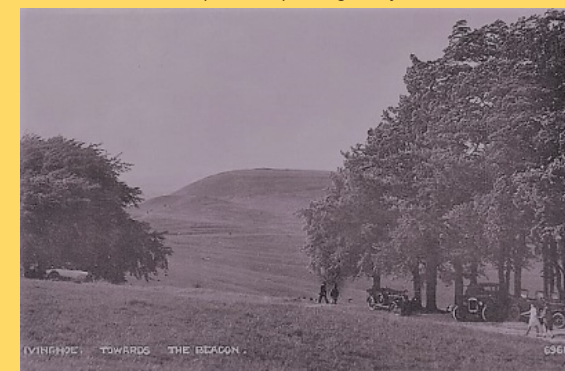
The present church [seen in the 1900s postcard] dates from around 1220, although its west wall has stonework from an earlier building, but was much rebuilt in 1872; locally mined Totternhoe Stone was used for the windows and doorways. Look out for the thatch hook, used to pull off burning roofing thatch, by



the gate; next to it is a man-trap used to catch poachers - beneath them is a plaque commemorating Edward VII's 1902 coronation. The large building to the right of the church gate, once part of a brewery, used to be a popular youth hostel for those tackling The Ridgeway National Trail - closed in 2007, it's now a private house; but there's a campsite at Town Farm.

4. to Ivinghoe Beacon:- via the B489 which *"...was then ascended. The summit... 200 [61 metres] feet above the road (the Icknield way) where the bicycles were left...the Director gave an explanation of its geological features...They were standing on, or just above the Melbourn Rock... On the summit of the hills behind them were the lower beds of the Upper [now the White] Chalk, and for some miles along the Dunstable Downs, as far as the Five Knolls...the Chalk Rock could be traced a little below the highest ground, its presence being indicated just beyond the upward termination of the steep face of the escarpment, nearly on level ground, by a slight ridge due to its hardness. Beyond the Five Knolls would be seen Totternhoe Castle Hill, the Melbourn Rock forming its summit."*

The summit of the Beacon (seen in the 1930s postcard) is the end of the 139-km (87-mile) Ridgeway National Trail; this

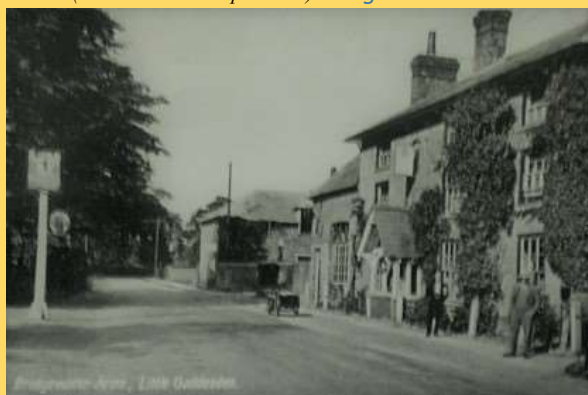


starts at the Avebury UNESCO World Heritage Site in Wiltshire to the east. The summit also is where the Icknield Way Trail heads east for 235 kms (146 miles) to Knettishall Heath in Suffolk.

5. eventually to Dagnall:- after *"...descending the hill a coombe [a dry valley] just below it was examined (now only safely viewed from the lay-by near the Aston Clinton T-junction), and its remarkably flat bottom, and regular, clear-cut side terraces, were commented upon, a halt*

being made a little farther on to examine another (it's no longer safe to do this!), the bottom and sides of which are curved. Just beyond the point where the Icknield Way crosses the road from Hemel Hempsted to Leighton Buzzard, a closer inspection of one of these little valleys was made, but this was a true river-valley... owing its origin to a time when the water-level in the Chalk was higher than it is now. At its head is a spring rising from beneath the Totternhoe Stone... It was here decided not to go on to Well Head... and the return journey was commenced, the Hempsted road being taken as far as Dagnall."

6. to Little Gaddesden:- next, its was right at Dagnall before "...a long ascent commenced to Ringsall, where there is a small outlier of the [Palaeocene] Reading Beds... On arriving at Little Gaddesden tea was provided at the (seen in the 1930s postcard) Bridgwater Arms..."



This was a 'meat tea', costing 2s. 6d (12.5p and £15 at today's prices), after which they cycled over...

7.(a) Berkhamsted Common:- as they started their "...return journey [which] was continued through Ashridge Park and over Berkhamsted Common..."

Although not mentioned, they probably noticed the few small sand-pits on the Common. Today, these are small circular, and bracken-filled, shallow depressions within the grass and heather clad heath-land.

7.(b) The Bridgewater Monument:- the cyclists must have glimpsed, at least from Aldbury, the (and seen in the 1930s postcard) Monument; it and the nearby café and toilets can be reached via a retraceable excursion route. Built in 1832, it



commemorates the third Duke (1736-1803), recognised as the 'father of inland navigation', who lived in Ashridge House; he had a canal built in 1761 from Worsley to Manchester to service his Lancashire coal mines.

8.Berkhamsted Station:- then, they finally cycled "...to Berkhamsted Station. Here one member of the Association was left to return by [probably the 7.26pm, arriving at Euston at 8.30pm] train, the others cycling on with the Director and Mrs. Hopkinson to their home near Watford, [another 20 kms away!] and leaving there after dark for London and elsewhere, one by train the others cycling."

The castle, built in the 11th to 15th centuries, isn't mentioned; yet. It's so close to the station, they really couldn't have missed it.

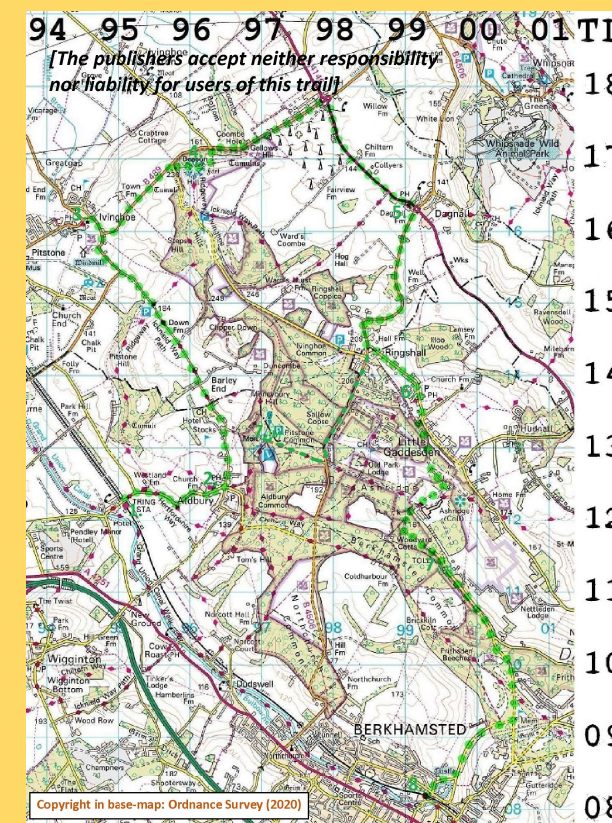
The Excursion's Chalk Geology

This excursion's cycled over solid rocks (see below left for a sketch vertical section through some 200 metres of them), covered by clays and sands, of mainly Cretaceous age. Some 65-100 million years ago, Britain was further south,

Stage	Age mya	Chiltern Hills lithostratigraphy	BGS (2005) British lithostratigraphy
Campanian	~82		Newhaven
Santonian	83.5		Seaford
Coniacian	85.8	Top Rock	Lewis Nodular
Turonian	89.3	Chalk Rock	New Pit
Cenomanian	93.5	Melbourn Rock	Holywell
		Plenus Marls	
		Bucks Rag	Zig Zag Chalk
		Totternhoe Stone	West Melbury
	99.6	Chalk Marl	Glauconitic Marl
			Phosphatic Chalk

hardened to form chalk. The layers in the chalk, generally just a few tens of centimetres thick, mark both subtle and

dramatic changes in sea-level and also reflect the rock material washed into the sea. For example, the Totternhoe Stone was formed when global sea-levels had fallen dramatically creating a narrow seaway, around only ten metres deep, between two close landmasses; so, it contains marl (fine clay), pebbles, (mainly broken) fossil shells and the burrows of several sea-floor animals. Chalk layers rich in, or almost purely made of, lime tend to be whiter than those, usually grey, comparatively rich in marl; the lime/marl mix reflects variations in the amount of micro-plankton debris sinking to the sea-floor due to climatic changes linked to 20,000-year (Milankovitch) cycles in the Earth's orbit. Some, usually thicker, marl bands formed from the ash of distant violent volcanic eruptions and so they show no such cyclic relationship. Sadly, little of this solid geology can be seen!



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