3. Upper Birch Walk

Birch Walk is one of the avenues of trees planted in late Victorian times on the Heath. It runs down a small dry valley leading into Long Valley.

There is a small gravel pit near the crest of Birch Walk; it must predate 1884, when the Heath became a 'People's Park'. A fresh geological exposure has been made for the Earth Heritage Trail, and shows a section through some of the coarse glacial gravels which underlie the high ground on the Heath. These may have been laid down as part of a 'sandur' or outwash plain during an ice-retreat phase of the Anglian glaciation, perhaps 430,000 years ago. The jumble of cobbles, pebbles, fine gravel and sand indicates that this layer was deposited suddenly and chaotically by meltwater as it emerged under pressure from beneath the ice, and then dumped its bedload of sediment.

Over 95% of the gravel is made of flint, derived either directly from chalk rock which the ice sheet passed over, or from pre-existing deposits of sand and gravel. The cobbles are battered and rounded by having been rolled in the glacial torrents, and are surprisingly brittle.

2. A flint cobble from Upper Birch Walk, broken open to reveal the fossil shell of an inoceramid bivalve (related to the oyster) from the Cretaceous Chalk.

Can you see signs of alignment in the pebbles and cobbles?

Freeze-thaw action during the last Ice Age (about 20,000 years ago) churned the ground to a depth of about a metre, and caused flow patterns to develop in the fabric of the gravel. This is known as cryoturbation.

3. The fabric of the gravelly subsoil shows signs of frost heaving during periglacial conditions.

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