

More thoughts on Climate Change

At the moment we should be either suffering or enjoying winter weather after an autumn which even confused plants and animals. We could be reminded of the report by the Shrewsbury Chronicler for the year 1573:

"This yeare from the begyninge of November until within xiiij dayes of Candelmas the season was so pleasant and fayre without frost or any snowe to specke of that there apeeryd leaves upon hathorn and ploomtresse before X'mas and the Koocow was hard songe and also seene x days before X'mas....."

We did, however, suffer from storms and floods as they did in 1570:

"..... the Vth of October there fel sutch a terryble tempest of wynd and rayne bothe uppon sea and lande which dyd mutche hurt in overflowing medows pastures and houses to the utter undoinge of the queenes subiects of this realme".

The news of such events this time likewise concentrated upon the fate of the people rather than exploring the reasons for such 'overflowing' in certain places. For instance, one wonders why some suburbs of Carlisle had been built on land which needed expensive flood defences. Such defences, which prevent a river from spilling into its 'floodplain', may cause the water levels in the confined channel to be a lot higher than usual and therefore pose a greater risk. At the same time, intense rainfall may not be able to drain from the protected area.

Dredging is regularly discussed but makes no sense on natural river channels where enlarged capacity simply slows speeds and encourages deposition of sediment.

Locally, the Severn spilled on to its floodplain a few times, but caused no problems to Bicton simply because nobody has built houses on such land. Meanwhile, away from the river the old pools on the proposed site of the 'Shrewsbury West Sustainable Urban Extension' still maintain their eighteenth century size (things seem to have gone a bit quiet on this issue....).

Historically, extreme conditions striking one area or another were not unusual: Lynmouth 1953, later Boscastle. Such settlements, like Pennine mill towns, occupy narrow valleys surrounded by hills and are therefore particularly vulnerable. However, one must realise that periodic extreme episodes have been the natural forces which cut the valleys in the first place. Between rare events builders could be lulled into a false sense of security.

Once upon a time, the landscape features were blamed on the draining away of Noah's flood, but as scholars rejected such biblical legends, they realised that the cumulative effects of periodic 'events' spaced over long geological time were responsible. Any individual, whether dinosaur or man, might not notice much change in a single lifetime, unless they were particularly unlucky to be struck by one!

As spring approaches, we will be on the lookout for the first signs of renewed growth, as June Hughes, our gardening correspondent, has done over almost thirty years. Her results, reproduced in this history series, have shown a marked cyclic pattern which, if projected forward, might suggest a late spring this year. We must just wait and see!

Fluctuations in weather and climate at different timescales are in fact quite normal. The natural mechanisms in control can sometimes cancel each other out; while at other times reinforce their effects.

Carbon dioxide is regularly cited as a controller of average temperature through the 'greenhouse effect' and this is supported by the history of the earth and its 'long term' carbon cycle written in the rocks. Volcanoes spew out carbon dioxide into the atmosphere, while weathering of exposed rocks traps it by chemical reactions producing 'carbonates' which are flushed into the sea to become new sediments. As continents split apart, more is 'produced' than 'consumed', raising temperature while colliding continents forcing up fresh mountains swing the balance the other way. Thanks to the Himalayas and the current configuration of continents, we are in a 'cool Earth' phase with relatively low concentrations of carbon dioxide and a vulnerability to 'Ice Ages'!

These Ice Ages come and go in another cycle driven by fluctuations in the Earth's orbit and the seasonal attitude of the northern continents towards the Sun. Then, of course, the Sun has its own cycle of activity, so astronomers keep a careful watch on it. No sooner had sun spots been discovered, than they disappeared for many years and such a 'quiet' period may have triggered the 'Little Ice Age' of the seventeenth and eighteenth centuries.

To add confusion to this, volcano dust and sulphur can cool the Earth, especially if there is a really 'big bang' from a 'super-volcano' like those 'simmering' under Yellowstone or Naples (Italians like to keep quiet about this one). The collapse of 'Bronze Age' civilisations has been blamed on such eruptions.

So what has all this got to do with Bicton? As often remarked, our landforms owe so much to the last Ice Age, since when very little has happened, except the occasionally really big flood. As regards the human landscape, the main settlement pattern developed during the medieval warm period, before the Little Ice Age stimulated economic and political changes.

In the autumn a climate change conference gathered in Paris but probably did not recognise the same climatic story in the great medieval cathedral of Notre Dame and the following political and social upheavals which produced the modern French State. However, politicians were inspired by the meeting so it might be wise to buy a thicker sweater and a box of candles just in case we run out of power.



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