GEOLOGY AND THE MEANING OF LIFE AND EVERYTHING

For their first indoor meeting of the new season, Berwick Wildlife Group welcomed Dr Ian Kille as their speaker. In a fascinating talk Ian showed how the underlying geology influences so many different things.

For example, the castle on Holy Island sits in a superbly defensible position, high above its surroundings on an outcrop of the Whin Sill. This is an igneous rock so hard that it stands proud while the surrounding softer rock has been worn away. This same rock is used for building house in nearby Craster, while buildings in Berwick are mostly of softer sandstone. However whinstone was used for the cobbles in the streets in Berwick, as it is harder wearing.

Underlying rock also influences local industry, as we can easily see on the coast of Northumberland where lime kilns have been built to make use of adjacent limestone outcrops, using for power the coal which is found nearby. In Bolivia there is a large lake which is completely filled with salt. A hotel nearby is constructed of “bricks” cut from salt. They obviously don’t have a rainfall like ours! There are specially adapted plants growing in this salt lake.

The Bass Rock, home to so many gannets, is the plug of an ancient volcano. All the rocks around it have been eroded away and been covered by sea, making it safe for breeding birds. Indeed the gannet’s scientific name is *Morus bassanus*, in honour of this site.

In the North-West Highlands of Scotland, ancient gneiss rocks were intruded by basalt. Many more lichens grow on the basalt than on the gneiss.

A major geological breakthrough was made just up the coast from Berwick. Using the genealogical tables in the Bible, Bishop Ussher of Armagh had dated the creation of the Earth at the night preceding the 23rd October, 4004 BC. James Hutton, who farmed at Slighhouses in Berwickshire in the 18th century, realised when he saw the unconformity at Siccar Point on the Berwickshire Coast that this estimate did not allow enough time for the geological development he saw before him.

This concept of “Deep Time” has been accepted and has helped understanding of many things, from Darwin’s origin of species to global warming. From other rock properties, by the way, we know that when our local rocks were formed, Berwick was sitting very near the Equator.

Ian convinced all of those present that Geology, influencing as it has our biodiversity, landscape, built environment, industrial archaeology and our predictive global mechanisms, is indeed behind everything.