

The Map that Changed the World

By David Vessey

David Vessey's talk to combined audiences of the Cirencester Science and Technology Society and the Cirencester Archaeological and Historical Society provided a fascinating glimpse into the life and work of the late 18th and early 19th century geologist William Smith.

The speaker outlined the early work of Smith as a surveyor who initially earned his living working on the construction of canals that were being built in the late 1700s in order to transport coal from Bath in the south to the growing centres of industry further north in Britain. Canal construction in the oolitic limestone strata in the area around Bath enabled Smith to examine the fossils exposed by the excavation work and from his observations he deduced that the fossils provided evidence of ageing. At a period when there was growing interest in the collection and analysis of fossils, Smith was encouraged by a number of wealthy and influential people in the creation of maps illustrating the wide variety of strata making up the geology of Britain.

From his study of fossils and his appreciation of the dip and strike apparent in the way rock types were layered according to age he developed the theory of faunal succession that paved the way for a greater understanding of the role played by fossilised vegetation in determining the age of different rock types and their temporal succession.

His fascination with the study of what subsequently became recognised as the discipline of geology and his work on a map that would show Britain represented in 23 different rock and soil types evinced the interest of established publishers and the well-known scientist Joseph Banks. Investors were keen to support the publication in 1815 of the first geological map of Britain produced by William Smith that measured an impressive 8ft by 5ft. Sadly, Smith's work was not endorsed by the London Geological Society who refused to accept Smith into their privileged circle as they did not consider him a gentleman.

Despite his problems with acceptance by the British Establishment and intermittent financial difficulties Smith's map really did change the world's knowledge of geology and Smith became the first holder of the distinguished Woolaston medal for geology.