

THE DEVONIAN PERIOD

The Devonian Period 419 to 358 million years ago, this period (whose existence was hotly disputed by Sedgwick, Murchison, and de la Beche, Greenhough in the 1820s and 30s) saw the amalgamation of two parts of Britain (but strangely not including Devon!), the emergence of widespread land vegetation, closely followed by insects and terrestrial tetrapods, their evolution linked to astronomical factors?. A major extinction, of disputed origin, wiped out a large proportion of life towards the end of the period. Half the world consisted of a vast ocean (Panthalassa), which, like the modern Pacific, was gradually being destroyed by subduction, in favour of the Rheic and PalaeoTethyan Oceans

PROGRAMME

1. Introduction Origins of the “Devonian”, its divisions, and limits. Outline of the course.
2. Devonian time Methods used to date the Devonian – zone fossils and their adequacy, radiometric dating, the Devonian palaeocalendar
3. Devonian world geography and plate tectonics
4. Devonian facies - marine
5. Devonian facies - terrestrial
6. The Devonian of Northern Britain. The Acadian Orogeny and its aftermath
7. The Devonian of South Wales and the South West of England
8. Terrestrialisation – the invasion of the land by plants and animals
9. The Frasnian- Famennian mass extinction
10. Environmental change during the Devonian, and its relationship to developments on land

Useful Reading

An extensive list of downloadable articles and books is available on Dropbox

<https://www.dropbox.com/sh/d5li5vkbvriitkg/AAAC7o7d9ozdEOV7oiiDMFuna?dl=0>

There is a now somewhat dated book “Aspects of a Stratigraphic System: The Devonian” by D.L.Dineley 1984 Macmillan, which is still very useful, but of course out of print.

The recently published book on “Earth History and Palaeogeography” by Torsvik and Cocks 2017 Cambridge, is a very interesting and up-to-date read, though only a small part is devoted to the Devonian.

Vol 122, Issue 4 (October 2011) of the Geologists Association Proceedings is devoted to “the Marine Devonian of Great Britain”

“The Great Devonian Controversy” by Martin Rudwick, Chicago 1985 describes the fascinating “discovery” of the Devonian period in the 19th century

“The Late Devonian Mass Extinction” G.R.McGhee, Columbia 1996, now updated to “When the Invasion of the Land Failed” G.R.McGhee Columbia 2013, are comprehensive accounts of this event

A useful little pamphlet, entitled “Invasion of the Land” by B.A.Thomas and C.J.Cleal, published by National Museum of Wales (2000), gives a well- illustrated account of plant evolution and adaption to life on land.

It is always worth reading the relevant sections in general stratigraphy books, of which there are very many, particularly American; but the most relevant for Britain is by Woodcock and Strachan “Geological History of Britain and Ireland, 2nd ed Wiley-Blackwell 2012