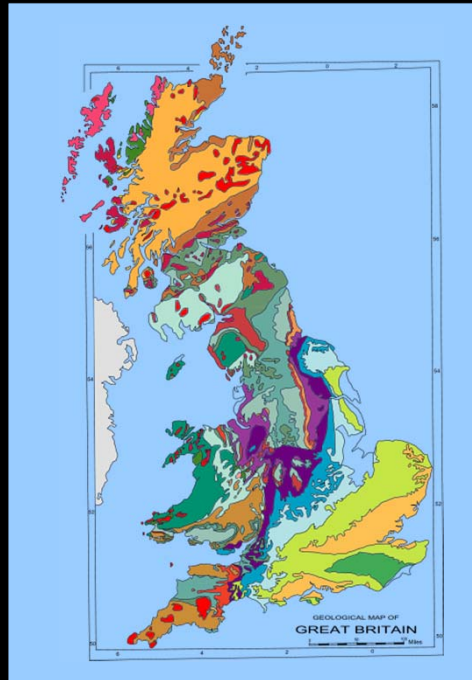


A Geological History of Britain

Dr Liam Herringshaw
lgh865@hotmail.com



Blurb

“Britain is home of the science of geology. From staggeringly ancient rocks in north-west Scotland to the ice age sediments of south-eastern England, the UK preserves almost 3 billion years of Earth history. In this course we will delve into the prehistory of Britain, showing how life here evolved, how our climate and environment has changed, and how Scotland was once on a separate continent.”

Course structure?

3 billion years of British geology

10 classes

= 300 million years per class?

Perhaps not...

= 8 classes on Precambrian

1 class on Ediacaran + Cambrian +
Ordovician + Silurian + Devonian +
Carboniferous

1 class on Permian + Triassic +
Jurassic + Cretaceous + Palaeogene +
Neogene

Course structure

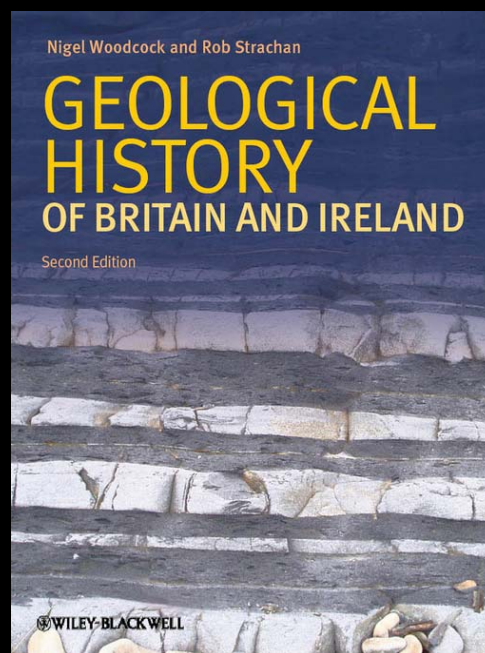
1. Intro & Overview
2. Precambrian-Cambrian of Scotland
3. Precambrian-Cambrian of England & Wales
4. Ordovician-Silurian
5. Devonian
6. Carboniferous
7. Permo-Triassic
8. Jurassic
9. Cretaceous
10. Palaeogene-Neogene

Reference texts

Geological History
of Britain and
Ireland

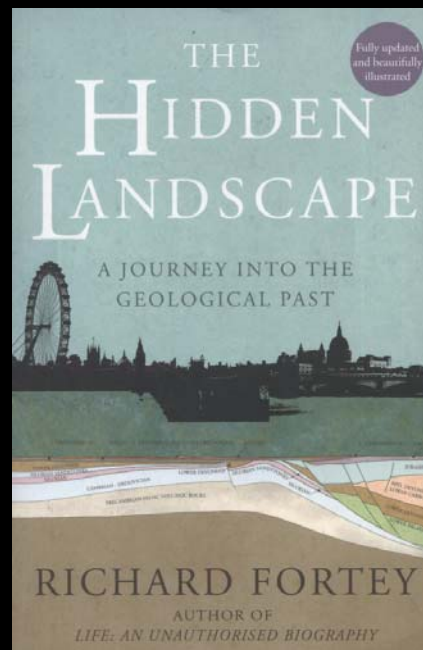
Nigel Woodcock &
Rob Strachan
(eds)

2000 paperback;
new 2012
hardback



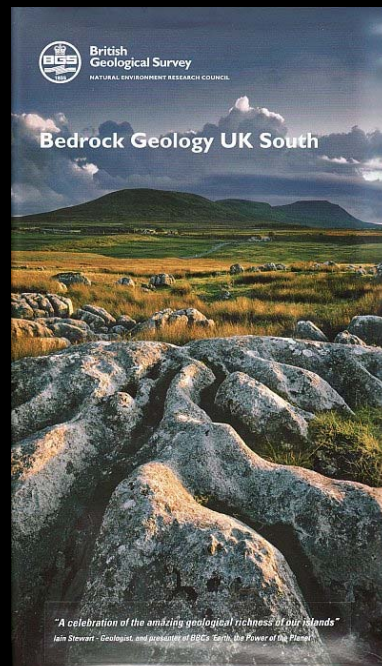
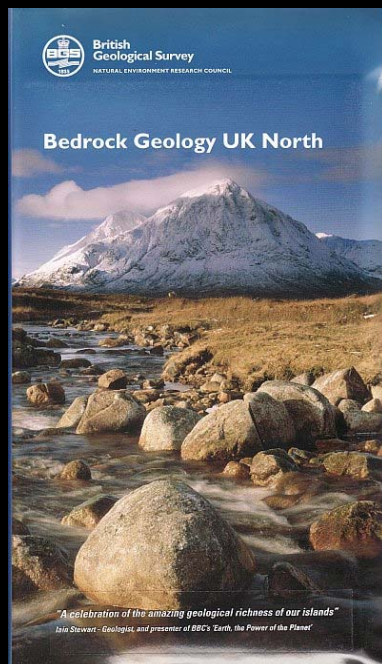
Reference texts

The Hidden Landscape
Richard Fortey
1993 and 2010 versions



Maps

BGS
2007



Free resource – www.bgs.ac.uk



Class format

Each week:

1. Focus on particular geological period

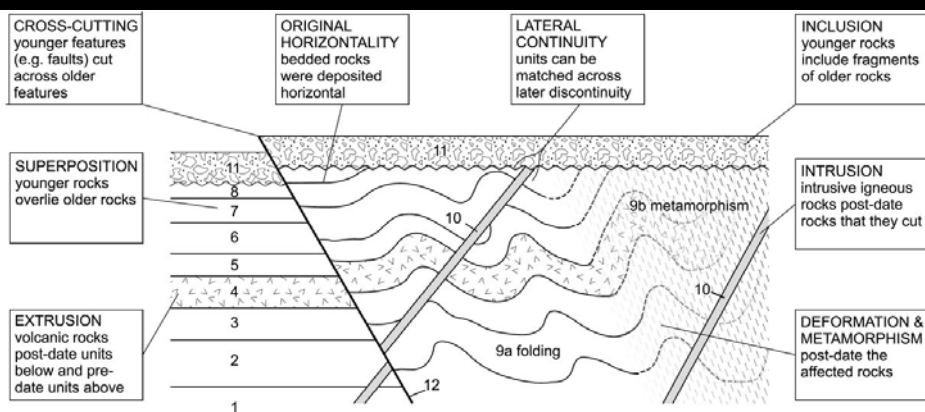
- Distribution
- Environments
- Researchers
- Role in history of Britain

2. Case study

3. Personal geological histories

Introduction & Overview

Stratigraphic principles



Geological History of Britain and Ireland, Second Edition. Edited by Nigel Woodcock and Rob Strachan.
© 2012 Blackwell Publishing Ltd. Published 2012 by Blackwell Publishing Ltd.

Fig. 1.1 Cross-section illustrating the rules of stratigraphy, which allow rock geometry to be translated into a sequence of events (numbered 1–12).

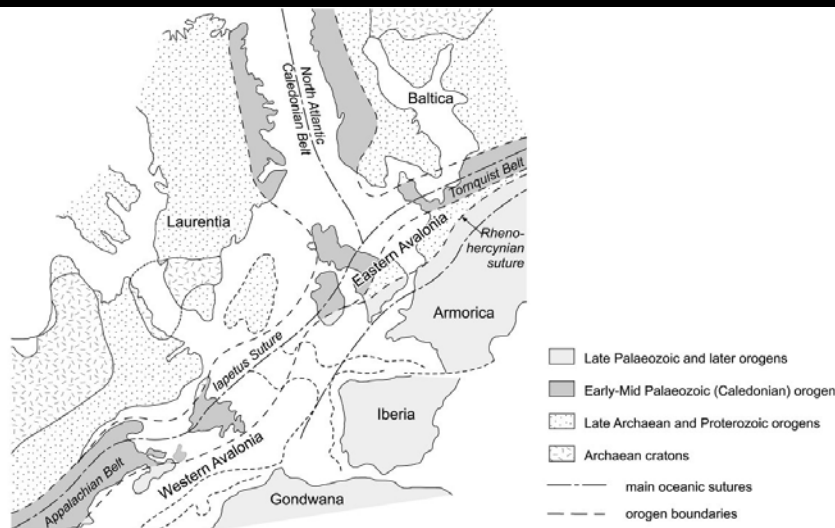
Time

Global standard time scale but historical/local terms used also

Eon Era	Period	Epoch	Age	Ma	Eon Era	Period	Epoch	Age	Ma			
Cenozoic	Quaternary	Holocene		0	Phanerozoic	Palaeozoic	Permian	Lopingian	251			
			Pleistocene	0.01				Guadelupian	260			
			Pliocene	2.59				Cisuralian	271			
	Neogene	Tertiary	Pliocene	5.33			Carboniferous	Stephanian	299			
			Miocene	23.0				Westphalian	307			
			Oligocene	33.9				Namurian	313			
	Palaeogene		Eocene	55.8				Mississippian	Visean	328		
			Palaeocene	65.5					Tournaisian	345		
			Maastrichtian	70.6					Famennian	359		
	Mesozoic	Cretaceous	Late	Campanian			83.5		Devonian	Late Frasnian	375	
Santonian				85.8		Mid Givetian	385					
Coniacian				86.6		Mid Eifelian	392					
Turonian				93.6		Early Emsian	398					
Cenomanian				99.6		Pragian	407					
Early			Albian	112		Lochkovian	411					
			Aptian	125		Silurian	Pridoli	416				
			Barremian	130			Ludlow	419				
			Hauterivian	134			Wenlock	423				
			Valanginian	140		Llandovery	428					
Berriasian	146	Ordovician	Late Ashgill	444								
Tithonian	151		Late Caradoc	449								
Kimmeridgian	156		Mid Llanvirn	461								
Oxfordian	161		Early Arenig	468								
Callovian	165		Early Tremadocian	479								
Bathonian	168		Cambrian	Fu		488						
Bajocian	172	Merioneth		502								
Aalenian	178	St David's		509								
Toarcian	183	Comley		530								
Pliensbachian	190	Proterozoic				Neoproterozoic		542				
Phanerozoic	Mesozoic						Triassic	Sinemurian	197			1000
						Hettangian		200	Mesoproterozoic			1600
						Rhaetian		204				2500
						Norian		217	Palaeoproterozoic			2500
						Carnian		229				2800
						Ladinian		237				2900
						Anisian		246				3200
						Olenekian		250				3600
						Induan		251				4000

Abbreviations: Te = Terreneuvian, Fu = Furongian

Origins and orogens



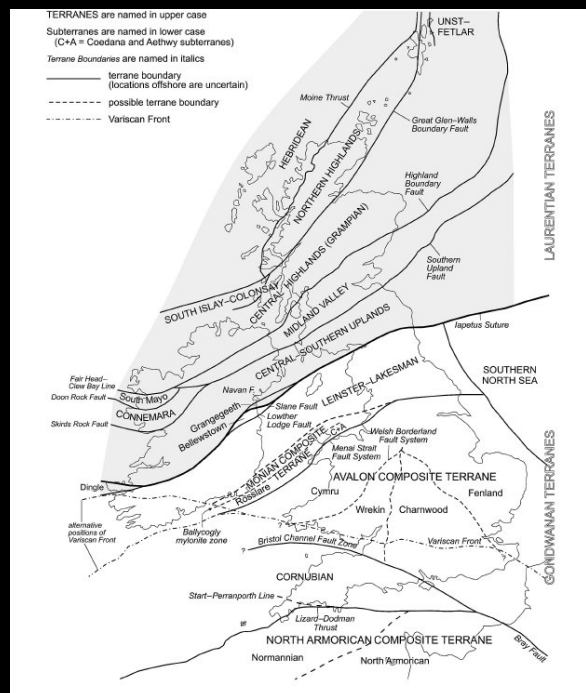
Geological History of Britain and Ireland, Second Edition. Edited by Nigel Woodcock and Rob Strachan.
© 2012 Blackwell Publishing Ltd. Published 2012 by Blackwell Publishing Ltd.

North-South divide

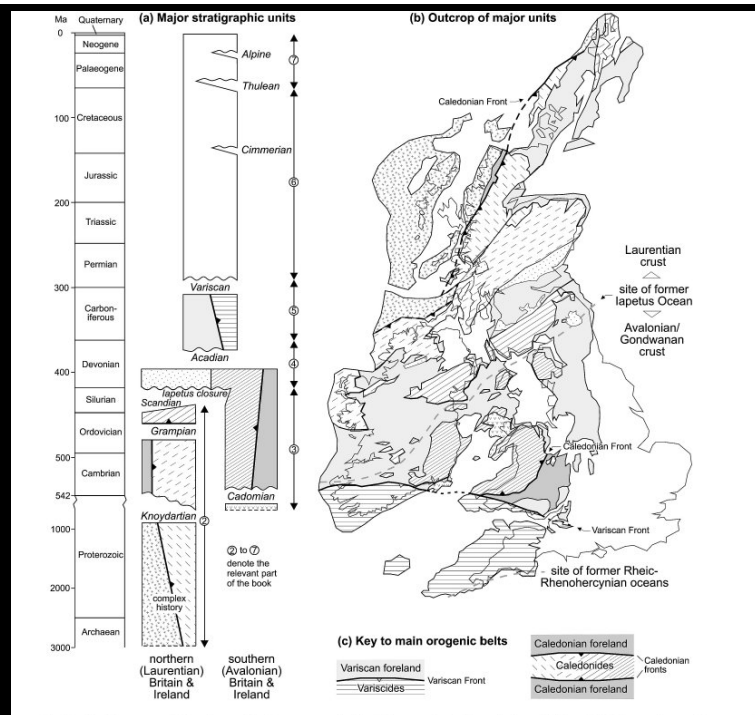
A Palaeozoic of two halves:

Scotland-northern Ireland = Laurentian

England, Wales, southern Ireland = Avalonian



Major UK gcl units

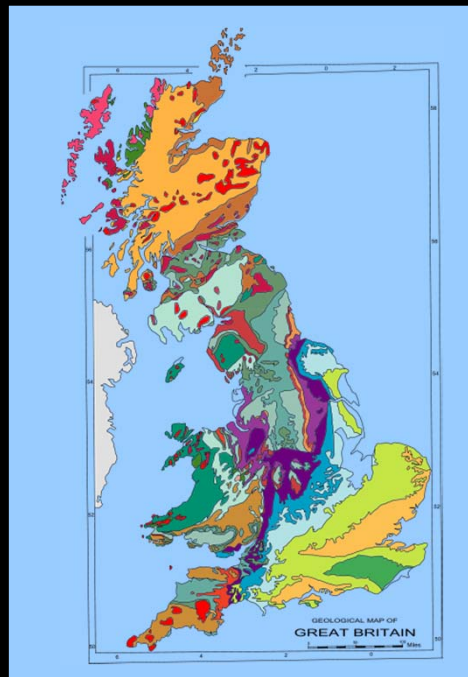




NW-SE

Land's End to John
O'Groats no good

Walk Cape Wrath to
Dungeness instead



What Do You Know Already?

Geo-nealogy





Your Own Geological History

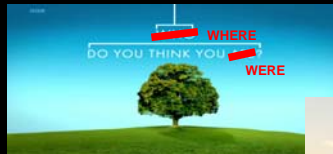
WRITE DOWN:

Where you were born

Where you live

Where you have worked

Where you love visiting



Liam Herringshaw

Born - Leicester

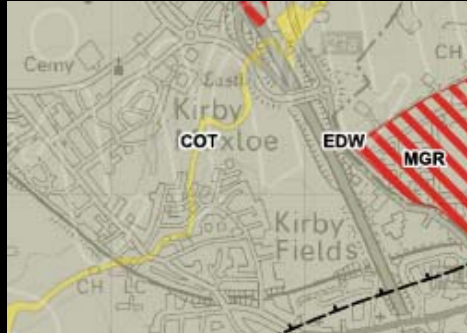
Live - York

Worked - Liverpool, Birmingham, Aberdeen,
Newfoundland, Durham

Love - Pembrokeshire, Yorkshire Coast,
Edinburgh



I was born on the Carnian, near the Charnian



Carnian = Late Triassic

Edwalton Member of the Sidmouth Mudstone Formation

The Carnian on the Charnian

© Peter Knudssen, www.geograph.org.uk



Triassic burial of Precambrian landscape
Muds formed in salty, desert lake system

Geo-nealogy

Build up our own personal geological histories:

Task 1. Find out the geology of the place you were born

BGS Open Geoscience

<http://www.bgs.ac.uk/opengeoscience/>

Next week

North of Iapetus: The Precambrian-Cambrian of Scotland

Q. What type of rocks were deposited in the Torridonian?

Links

Woodcock & Strachan student companion site:

<http://bcs.wiley.com/he-bcs/Books?action=index&bcsId=7187&itemId=1405193824>

Tutorials on regional geology:

http://www.geologyrocks.co.uk/tutorials/category/regional_geology

BBC Radio 4 “In Our Time”

<http://www.bbc.co.uk/programmes/b00n8t48>