



Cambridgeshire Geological Society

Newsletter

August 2021

Cambridgeshire Geological Society



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Editorial : Reg Nicholls

The cyclical progress of the pandemic is still causing us headaches as we look towards the new season of talks starting in September. At present, the restrictions placed on us by our venue will make physical meetings an unrewarding experience: so we have taken the decision to continue with virtual talks for the time being.

To date we have succeeded in running some local field trips (short reports elsewhere in this issue), with more to follow in the autumn. These are good opportunities for members to physically meet each other in an outdoor environment (and indeed in pubs afterwards!). If you have not signed up yet, then please do—most are not

that strenuous and there is plenty of time for chatting! During the coming season, we are looking to extend our field trips hopefully into adjoining territories by linking up with our neighbouring societies and perhaps, if demand is there, to go further afield in the UK. If this appeals to you, then please let us know!

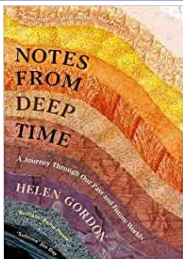
Book Review

This summer's reading was this recent publication by Helen Gordon –her interest in geology was sparked by an interpretation board on the North Downs Ridgeway. This is a very readable book, but it does not follow the “normal” progression through the

eons or even a geographical journey. Instead it is split into 3 main sections that dance about through space and time. Much of the geological content comes from interviews with well known geologists: A couple of our recent lecturers—Phil Gibbard and Andrew Farrant

make their appearance. I found the section on the posed Anthropocene very illuminating, in particular. This is not a book for the well versed geologist, but can and should provoke the interest of those with a passing acquaintance with Earth history

Notes from Deep Time: Helen Gordon



Book your place on our range of field trips by contacting us on

info@cambsgeology.org

Upcoming Field Trips

East Pit Chalk quarry in Cherry Hinton. A Local Geological Site

10:30, 7th Nov: ~2 hrs

This is one of the most visible Chalk successions in Cambridgeshire: The Plenus Marl and Melbourn rock are exposed along the cliff.

It is part of the GA Festival of Geology

Walk from Swaffham Bulbeck to Reach: A Fen Edge Trail

09:30 6th October ~3 –4 hrs

From the chalk scarp to the “fen island” of historic Reach. As this is a one-way walk, we will time the start to co-incide with the bus from Reach to Swaffham (then walk back)

Building Stones of Cambridge

10 -12:30 am ,11th Sept

A guided tour of stonework on some buildings in the centre of Cambridge .See if you can distinguish between the different Lincolnshire limestones?

(see page 4 also)

Field Trip report: Burwell LGS



Exposure at spring



Participants in Carter's Pit

On a sunny morning on the 5th June, 16 participants met at the Guildhall in Burwell for an introduction to the geological and palaeo-climate background to the Cretaceous exposures to be visited.

First stop was over the scarp edge down to the spring in the Castle grounds. The springs were flowing copiously and visibly from the junction of the West Melbury Chalky Marl and the Totternhoe Stone – both

rocks showing as outcrop. The exposure is very weathered, making a visual segregation difficult.

The route to the next stop at Carter's Pit, took us along the High St past some very weathered clunch walls – showing its weakness to modern road pollution and some rather splendid higher quality Chalk ashlar buildings.

Carter's Pit is one of the few remaining visible quarry

faces left in the area: the party made its way along the path into the pit to stand and view the expanse of exposed chalk quarry face. The chalk is very weathered and is thought to be representing mostly the Zig Zag Chalk, with perhaps the underlying (better quality) Totternhoe stone at its base. After some discussion about where the junction might be, we made our way back out past a well on the edge of the quarry, out of the Pit.

A walk through Thorney: a fascinating 'island village'



Thorney Church

On Sunday 20th June, as part of **Celebrate the Fens** (an initiative by **Fascinating Fens**), CGS led a walk on the **Fen Edge Trail** around the 'island' of Thorney in partnership with **Thorney Museum and Society**. The weather was kind to us, the local wildlife co-operated and 21 people set off on an afternoon stroll to explore the interesting story of this historic village.

We passed over the Jurassic Oxford Clay bedrock as well as the Pleistocene 'March Gravels' and the Holocene fen silts, the three together being very representative of the geology of the local Fens. The 'Ice Age' gravels include limestone, ironstone and flint pebbles.

Somewhat enigmatic, their age and deposition conditions have been difficult to establish. They contain animal remains (including marine molluscs) that may date from the Ipswichian warm period (c.120k years ago) but could have been later, in colder conditions of the last glacial period (the Devensian, ending c.12k years ago) with the earlier material being

'reworked'. Whatever their age, they have provided a series of vital, dry land refuges in the last several thousand years, forming most of the Cambridgeshire fen 'islands'. They form the higher land on which the settlements of March (hence the name), Doddington and Wimblington have developed and they also underlie Whittlesey, Chatteris and Ramsey (but not Ely). The fenland surrounding Thorney is rich in 'roddons', the sandy beds of ancient river channels dating from c.4k years ago (Late Neolithic/Early Bronze Age). These now snake their way across the landscape, standing higher than the adjacent fen which is affected by shrinkage of underlying peat.

Starting on the March Gravels at the village green, we walked north to the church, slightly lower on the Oxford Clay. This is all that now remains of the much larger building of Thorney Abbey. The buildings were constructed of the high quality Jurassic limestones found to the north west, as were many of the attractive houses in the village, whilst the local 'Thorney

brick' was used for others. Walking west along The Causeway, we descended onto lower 'fen' land covered by the Tidal Silts of the Late Neolithic/Early Bronze Age marine inundation (c.4k years ago). From here there were views back to the church to the east and over the Nene River Terrace Gravels to the south and west, the latter having produced significant Bronze Age archaeological finds. We walked along a farm track that followed the distinctive 'fen edge', with low silt fen on one side and the higher gravel island on the other. Our path then took us through pastures to return to the higher land of the village centre gravels. Dot, from the Museum, provided details of the rich cultural history of the area including that of the Benedictine Abbey and the 7th Duke of Bedford's 'model agricultural village'.

We hope to publish the Fen Edge Trail Thorney Walk later this year incorporating geology maps and local information. A visit to the small but interesting museum is highly recommended when it opens.



Thorney gravels and fen



Thorney windmill

Trip report by:
Chris Donnelly

Monthly Society Meetings

Our regular meetings take place on the evening of the 2nd Monday of each month at 19:30. There are no meetings in July or August. They are free to members, visitors are charged at £3

Due to continued CV-19 restrictions in our meeting place, our new 21 / 22 season will continue virtually by Zoom—look out for any e-mail notifications or our website for more information

Whilst we operate “virtually” anyone can sign up to a talk. The talk is recorded and made available to **members** afterwards.

Monday 13th September 2021 7.30pm

“Conserving Cambridgeshire’s Geological Heritage: Local Geological Sites – what they are and why they matter”

Reg Nicholls, Chris Donnelly, David Brooks (CGS)

Sites of Special Scientific Interest (SSSI) and Local Geological Sites (LGS) are recognized in the planning system as areas that require consideration for their geological, educational and esthetic value.

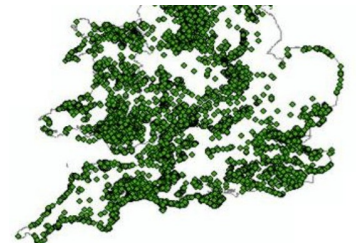
Using examples from some sites for which the Society has recently achieved LGS status (Great Fen, Nine Wells and East Pit), we will cover what being an LGS means, the criteria required for designation and also consider other sites that represent the county’s interesting geology.



Monday 11th October 2021 7.30pm

Catherine Pennington, British Geological Survey, will be presenting on **Landslides in the UK from an engineering geology perspective.**

Our speaker has co-authored papers on recent landslides at Aldebrough (Yorkshire) and Bournemouth, as well as data modeling using the Internet of Things for landslide monitoring. She is part of the team providing Daily Landslide Hazard Assessments for the Natural Hazards Partnership.



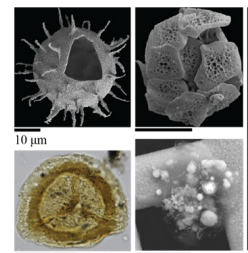
the National Landslide Database. BGS © NERC 2015. All rights reserved. Contains Ordnance Survey data (coastline) © Crown copyright and database right 2015.

Monday 8th Nov 2021 7.30pm Our AGM followed by:

‘Palynology and its applications: palaeontology’s darkest art.’

Dr Jan Hennissen, British Geological Survey

The perhaps obscure science of palynology focuses on the study of microscopic specimens resistant to mineral acids. Yet, it contributes to our understanding of the natural environment, aids in correlation of boreholes and geological sections and charts past and current changes to our climate. This talk offers an overview of historical and modern palynological applications ranging from biostratigraphy to palaeo-ecology and its potential to constrain future climate models.



Building Stone Atlas of Cambridgeshire

Much of the rock visible in the county exists as building stone. Over the centuries, a variety of different types of stone has been quarried for building purposes from within Cambridgeshire. An excellent review of the local building stones with some examples of where to see them is contained in a free publication from Historic England: 'Strategic Stone Study—A Building Stone Atlas of Cambridgeshire (and Peterborough)'. There is a corresponding atlas for every county in England—all downloadable from the British Geological Survey website.

https://www2.bgs.ac.uk/mineralsuk/buildingStones/StrategicStoneStudy/EH_atlases.html

As transporting building stone over distances was expensive until the coming of the railways, most early and vernacular building used as local a stone as possible. Moving around the county, the typical building material correlates very well with the bedrock below - flint and chalk (clunch) in the south and east; distinctive brown gritty Lower Greensand rock in the centre and west; the pale Middle Jurassic oolitic limestones for the north east. Transport by river and Lode was utilised in the fen areas of the county, allowing easier transport of imported stones from Lincolnshire to be used in the more spectacular buildings - cathedrals, colleges and some village churches.

The atlas covers the county area by area and then gives details on individual indigenous stones through time. It also covers examples of more recent imported stones from other UK locations which can be found mostly in the college buildings in Cambridge itself.

This ties in neatly with our Building Stone Tour of Cambridge city (see page 1)

Other Society Meetings

Friends of the Sedgwick

To find out about these monthly talks, see

<http://www.sedgwickmuseum.org/index.php?page=friends-of-sedgwick>

for more information

CNHS lecture meetings

To find out about these monthly talks and other activities, see

<http://www.cnhs.org.uk/> for more information

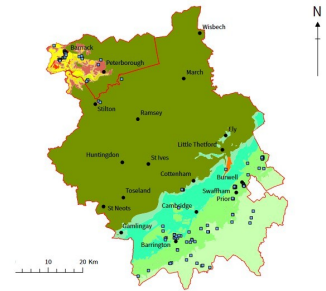
Local Fen Edge / Cambridgeshire museums (when opening permitted)

There are several museums with interesting fenland exhibits. Two that are now involved in the Fen Edge Trail are Burwell Museum

www.burwellmuseum.org.uk and Ramsey Rural Museum

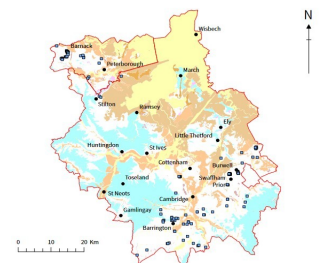
www.ramseyruralmuseum.co.uk. Out in the Fen basin, are a number of other collections including those at Wisbech Museum

www.wisbechmuseum.org.uk which has numerous natural history specimens including local fossils. Peterborough (see photo to right) and Ely museums also have local geology exhibits.



Cambridgeshire Bedrock Geology
■ BUILDING STONE SOURCES

Maps from the Atlas showing the bedrock, the superficial geology and the quarry locations



Cambridgeshire Superficial Geology

Friends of the



*Sedgwick Museum
of Earth Sciences*

