Chairman's Report

2021 has been a bit of a roller coaster year as we have moved through the COVID-19 pandemic. At times it had been hard to keep track of the change in Lock-down rules, the latest Tier system and the spread of new variants! The good news has been the early and efficient rollout of the Covid-19 vaccine. The strong vaccine take -up seems to have reduced the hospitalisation associated with the virus and allowed the country to start getting back to normal.

Despite all the uncertainties the Society has been able to deliver a full programme of lectures, albeit remotely using Zoom and during the second half of the year a significant programme of field meetings. Our membership currently stands at 69 which is a healthy number and reflects the enthusiasm that the committee have shown in putting together the programme. The committee has continued to meet remotely to conduct the business of the Society. In February we held the 2021 AGM over Zoom appointing and welcoming Katie Munday as our new Secretary.

Lectures

Our lecture programme has covered a wide range of geological topics and we hope you have found them stimulating. We have received positive feedback and we are grateful to the speakers who have provided some excellent and interesting presentations. Of particular note was the lecture given in February by Professor Tom Blenkinsop on ''Ballistic Impacts in the Cosmos and in Combat.'' This lecture stimulated discussion on the WWII bomb damage in Bath and prompted Maurice Tucker to undertake several surveys and write three articles for the newsletter.

Another lecture of particular note was the one by Dr Doug Robinson on 'The Making of the Mendip Hills'. The timing of this was particularly well planned as it preceded the field trip Doug led the following week. This model of a lecture ''briefing'' ahead of a field trip allows attendees to get the most out of the information being shared.

Normally the Society doesn't hold lectures in January or August as turnout has been poor due to proximity to holidays. However, the low cost and flexibility of using Zoom has enabled us to add additional lectures to the programme, this included Professor Maurice Tucker's talk on Fossil Viruses in January 2021 and Dr Sam Medworth's talk about his ancestor Dr Arthur Hutchison in August 2021.

As restrictions were gradually lifted in September, we met physically in BRLSI to view the temporary exhibit of the Strawberry Bank Fossils and to hear Matt William's lecture. It was an extraordinary feeling to get back together for the first time for 18 months and to clap together after the lecture. As well as a physical audience, of around 30 people in the lecture room, we were able to broadcast the event over Zoom to a further 11 people online. We are hoping to be able to continue hybrid meetings as we believe it will be popular to some of our more remote or elderly members. Hybrid meetings were held for September, October, November and December. The Society purchased a lapel microphone which made a significant improvement to the sound quality for those listening online

Field Trips

We had planned to run our annual field trip and clean up to Browns Folly on March 6th 2021 however as the UK was in lockdown for much of the Spring and numbers for outdoor meetings limited, we decided not to hold this event. From May 15th 2021 these restrictions were lifted and we added several additional field trips during the second half of the year. I know some people were unable to attend due to the short notice given and I apologise for this. It was felt that it was better to run a trip at short notice than risk cancelling again should the rules and circumstances change.

Fig. 1: Portland Field Trip – May 22nd 2021

Fig. 2: Mendips Field Trip – June 9th 2021

Fig. 3: Murhill & Winsley Field Trip – July 7th 2021

The 2021 Committee

Chairman: Graham Hickman
Treasurer: Phil Burge
Secretary: Katie Munday
Membership Secretary: Polly Sternbauer
Meetings Secretary: Anne Hunt
Journal & Zoom: Mellissa Freeman
Field Trip Secretary: Sue Harvey
Field Trip Safety: Bob Mustow
Webmaster: James McVeigh
Linda Drummond-Harris
Professor Maurice Tucker

I have been very grateful to the hard work and commitment of the Committee during the year. Their efforts have resulted in the delivery of a full programme of lectures and field trips. The circumstances of working remotely have required additional email communications, updating of the website and producing the newsletter/journal. Communicating with new members and keeping track of our finances.

Under normal conditions the committee meets 3 or 4 times per year but under these situations we have met virtually about 6 times. The strength of a Society like ours is measured by those who volunteer their time and I am indebted to those on the committee.

The introduction of a newsletter last year has been a useful tool for communicating upcoming events and news. It also provides an opportunity for members to write and share, please contribute.

If you have any comments or suggestions, we would love to hear from you. On behalf of your committee, thank you again for your support.

Graham P Hickman
chairman@bathgeolsoc.org.uk

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Moher, more and yet more Carboniferous in Ireland

By Charles Hiscock

Ireland, despite its small area, can boast representative rocks and formations from most of the geological periods, from the Precambrian gneiss of south east County Wexford to the Tertiary basalts of County Antrim, overlain in much of the island by post-glacial deposits. However, it is the Carboniferous outcrops that provide about 65% of the land area with the rocks ranging from sandstones, shales to limestone.

Towards the end of the Devonian period, during which Ireland was part of north west Europe, the continent sank and was covered by a warm calcium-rich sea. Great areas of coral reefs were formed which eventually created the Lower Carboniferous Visean limestone (315-325 mya) that outcrops across Ireland, in the Bristol area, Mendip and the rest of the UK. This was followed by extensive deposition of sandstones and shales during the Upper Carboniferous Namurian era (299-315 mya). As the period advanced, so the sea became shallow until eventually swamps and tropical forests provided the organic matter that became the coal deposits of the Coal Measures. During the Triassic period, wide ranging and intense erosion occurred in a desert environment which stripped off most of the coal measures and much of the sandstones and shales. This left Ireland with very small outcrops of Coal Measures, principally in Counties Carlow and Tipperary of central south east Ireland with larger outcrops which were mined in Counties Leitrim, Kilkenny and Cork.

Today, much of the Carboniferous outcrops are covered by bogs which have formed since the last ice age and by soils which have been exploited for agriculture. However, there are some extensive outcrops of limestone, sandstones and shales and it is these which I will be visiting in the following paragraphs. Fig. 1 is a generalised map of the Carboniferous outcrop in the area of Counties Clare and Galway (courtesy of the Burren Centre, Kilfenora, County Clare).

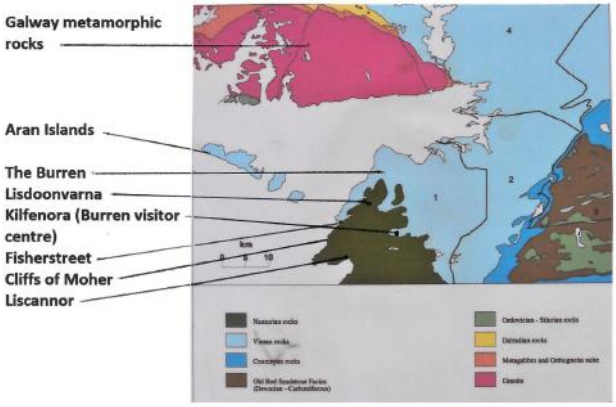

Fig 1: Generalised geology map of Counties Clare and Galway

Cliffs of Moher, County Clare

The Cliffs of Moher on the Atlantic coast of County Clare are famous for being some of the highest sea cliffs in Europe. Rising to 214 metres/702 feet at their highest point, Knockardakin, they stretch for over 8 kilometres from Liscannor to Fisherstreet near Doolin Pier on the southern edge of the Burren. A distinctive feature of the cliffs is that the drop into the Atlantic Ocean is generally vertical, caused by the almost level bedding of the rock layers that make up the cliffs giving the more intrepid (or foolhardy!) the chance to sit on the edges of the almost flat rock platforms, dangling their legs over the edge.

The Cliffs of Moher were laid down during the Namurian era (299-315 mya) of the Upper Carboniferous period with the Cregg Limestone Formation to the south of the visitor centre and the Gull Island Formation to the north at a time when warm seas covered most of the present western European landmass.