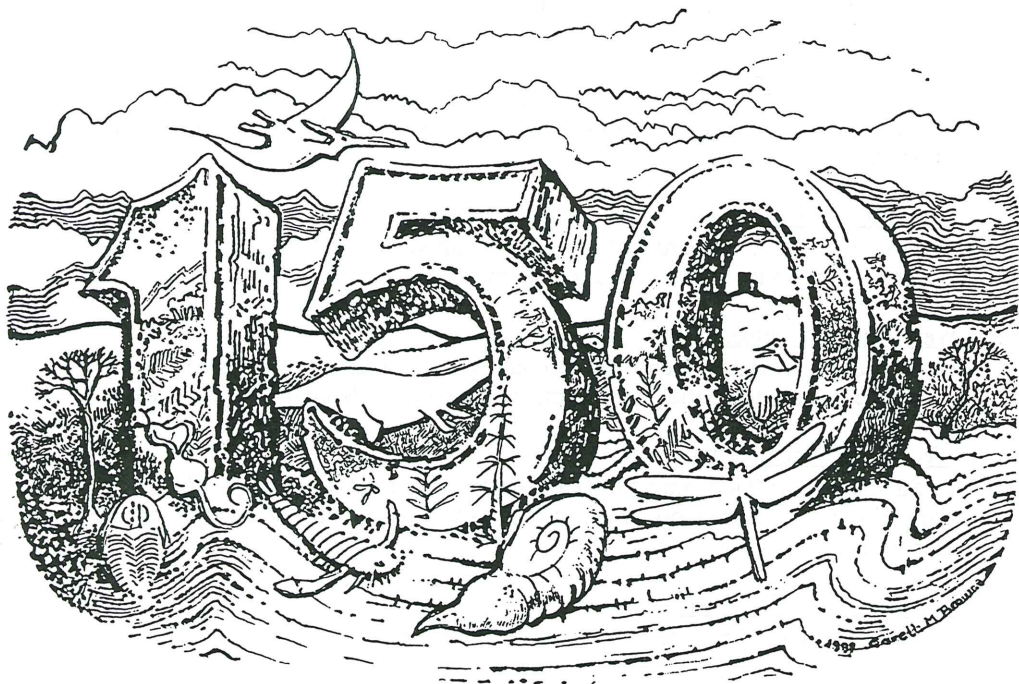


# CHARNIA

LEICESTER

LITERARY AND PHILOSOPHICAL  
SOCIETY



AUTUMN 1999 EDITION  
THE NEWSLETTER OF  
SECTION C (GEOLOGY)

## INDOOR MEETINGS 1999/2000 - PROGRAMME

All held at 7.30 pm in room LT10 in the Geology Dept, Leicester University, except where indicated

1999

Wednesday October 6th

Dr David M. Martill (Geology Department, University of Portsmouth) - 'A marinated Cretaceous biota'

Wednesday October 20th

Dr Paul B. Wignall (Department of Earth Sciences, Leeds University) - 'End Permian mass extinction in high latitudes'

Monday November 1st

Joint Meeting with the Parent Body (held at New Walk Museum). Professor Lynne E. Frostick (Department of Geography, University of Hull) - 'Rivers and Rubbish'

Wednesday November 3rd

Dr Tiffany L. Barry (Department of Geology, University of Liverpool) - 'Volcanoes in Mongolia - what are they doing there?'

Wednesday November 17th

Dr Charles H. Wellman (Centre for Palynology, University of Sheffield) - 'New insights into early terrestrial ecosystems: fresh evidence from the Rhynie cherts'

Wednesday December 1st

Dr Sarah J. Davis (Department of Geology, University of Leicester) - 'The Carboniferous icehouse world as an analogue to understand the effects of future climate change'

Wednesday 15th December

Christmas meeting, to be held at the New Walk Museum

2000

Wednesday January 12th

Vicky Mason (Wildlife Trusts, Lincoln) - 'RIGS - what it means and how it works' (provisional title)

Wednesday January 26th

Professor M. Aftab Khan (Geology Department, Leicester University) - 'The Geophysics of Continental Rifts'

Wednesday February 9th

Members evening, to be held at the New Walk Museum

Wednesday February 23rd

Professor Stephen Donovan (Keeper of Palaeontology, The Natural History Museum, London) - 'Jamaican palaeontology - some new discoveries from a well-known island'

Saturday March 4th (whole day)

Saturday School, Vaughan College. 9.30 am - 5.00 pm. 'Global Warming - nothing new under the sun? A symposium on climate changes past, present and future'

Wednesday March 8th

Matthew Pope (Department of Archaeology, University College, London) - 'Hominid activity at the Boxgrove site, West Sussex' (provisional title)

Wednesday March 22nd

AGM and Chairman's address - Andrew Swift (Department of Geology, Leicester University) - Title to be announced

## OBITUARY

It is with regret that we notify the Section of the death in May of this year of John Trantom from Leicester, one of our long-standing members. He had been a member for around 22 years. We send our condolences to his family.

## WINTER PROGRAMME 1999/2000

I have received abstracts for several of the talks in the Winter 1999/2000 indoor season, which are printed below. Building on the excellent and very well-supported programme of last season, I think you will agree that these abstracts represent another stimulating series of lectures, and we extend a warm invitation to you all and hope you will make every effort to attend. Further abstracts are expected for the later talks scheduled for 2000, and these will be printed in the next Charnia. I will take this opportunity to remind you that we normally entertain speakers to a pre-talk meal at the Old Horse pub (on London Road) between 6 and 7 o'clock, to which all are welcome. If there is a particular speaker you wish to meet, please come along with us for this meal. Just ring me on 0116 2523646 to notify me if you would like to join us.

Andrew Swift

Wednesday October 6th 1999

### A Marinated Cretaceous Biota

Dr David M. Martill  
Department of Geology, University of Portsmouth, Burnaby  
Building, Burnaby Road, Portsmouth PO1 3QL, UK

The Crato Formation of the Araripe Group is exposed on the flanks of the famous Chapada do Araripe in the northeast of Brazil. The basal part of this formation, known as the Nova Olinda Member, comprises up to 11.5 metres of millimetrically laminated limestone and is of Early Cretaceous age, and possibly Aptian. This limestone was deposited in a water body of somewhat unusual character.

Around the towns of Nova Olinda and Santana do Cariri numerous small quarries worked for ornamental stone yield thousands of fossils each year. Many of these are new to science, and include bizarre pterosaurs with soft tissue head crests, lizards preserved with the remains of their last meal and thousands of fishes killed en masse. Also found are the remains of insects that dropped in from the sky or lived in the surface waters. Several hundred new species have been discovered, although at present discovery rate is higher than description rate. There are also remains of a diverse flora. The plant remains often include the entire plant with roots, stems, leaves and even flowers.

Most of the fossil remains are of plants and animals washed into the basin, rather than of indigenous organisms. Many of the plants were probably undercut by erosive streams and floated into the basin, whereas others appear to represent branches snapped during large storms.

Nothing lived on the floor of the basin. Waters here were probably anoxic. However, anoxia is not the only part of the story. Nothing much was living in the surface waters; the only common surface living animal being the gonorynchiform fish *Dastilbe elongatus*. This fish species is closely related to the extant *Chanos*, a fish that is known to be tolerant of high salinities. This and other evidence suggests that the Crato Formation lagoon was frequently hypersaline. The abundance of well preserved fossils of many different sorts is in part due to the marinating effect of the highly saline waters.

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Wednesday October 20th 1999

End Permian mass extinction in high latitudes

Dr Paul B. Wignall  
Department of Earth Sciences, University of Leeds, Leeds LS2 9JT,  
UK

The most severe crises in the history of life struck around 250 million years ago. In excess of 90% of the world's species disappeared in a relatively short interval. Marine sections from low palaeolatitudes show that the extinction closely coincides with the development of oxygen-poor conditions. Until recently little has been known about the end Permian mass extinction in more northerly palaeolatitudes. New field evidence from East Greenland and Spitsbergen will be presented demonstrating that, in addition to the "anoxic event" seen in lower palaeolatitudes, the sections also record intriguing evidence for more volcanic-related extinction mechanisms.

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Wednesday November 3rd 1999

Volcanoes in Mongolia - what are they doing there?

Dr Tiffany L. Barry  
Department of Geology, University of Liverpool, Liverpool L69  
3BX, UK

Throughout central Mongolia and the Gobi desert are many basaltic volcanoes. These volcanoes erupted during the last 30 million years, with the last one erupting just 4,000 years ago. Although they are only small-scale volcanoes, their occurrence is extremely perplexing given that they are thousands of miles from any plate boundary and are situated on thick continental crust. What caused

these volcanoes to erupt in the middle of the vast Asian continent? Two expeditions to Mongolia led to some exciting field studies, which were followed up by research on the geochemical characteristics of the lava. Surprising results from the geochemistry showed that regardless of when the volcanoes erupted, or where in Mongolia they occurred, the lava produced shows a distinct chemical signature. The similarity of the basalt compositions cannot be attributed entirely to crustal contamination or magma chamber processes. Instead, the results suggest that the deep mantle beneath Mongolia is riddled with hydrous veins, which melt easily upon heating. This suggests that Mongolia is underlain by mantle which is hotter than normal and this may take the form of a mantle plume. How the hydrous veins formed in the first place is also intriguing as they may have been caused by subduction processes which occurred during the Palaeozoic accretion of Asia.

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Wednesday November 17th 1999

New insights into early terrestrial ecosystems: fresh evidence from the Rhynie cherts

Dr Charles H. Wellman  
Centre for Palynology, University of Sheffield, Dainton Building,  
Brook Hill, Sheffield S3 7HF, UK

The Rhynie cherts (Aberdeenshire) are early Devonian deposits that preserve the oldest known example of an in situ fossilized terrestrial ecosystem. These remarkable deposits represent siliceous sinters deposited by a hot spring system. Periodically the silica-rich waters inundated the land surface preserving in situ soil profiles, litter horizons, the flora and fauna. The fossils (plants, fungi, algae and arthropods) are remarkably preserved due to the novel silicification



process that incarcerated them, and incredible anatomical detail is preserved. Analysis of the geology and palaeontology of the Rhynie cherts provides an unprecedented insight into the nature of terrestrial ecosystems at this critical time in the early evolution of life on land. However, work on the Rhynie cherts has always been hampered by the lack of surface exposure (the fossiliferous material is derived from float and by trenching). Recently a series of boreholes was sunk through the Lower Devonian sequence at Rhynie, and work on the cores has revolutionized our understanding of these deposits. This talk will outline, discuss and interpret new evidence deriving from studies of the cores, concentrating particularly on new palaeontological findings relevant to the origin and evolution of early terrestrial ecosystems.

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Wednesday December 1st 1999

The Carboniferous icehouse world as an analogue to understand the effects of future climate change

Dr Sarah J. Davis  
Department of Geology, University of Leicester, Leicester LE1  
7RH, UK

The climatic fluctuations we observe today have a catastrophic effect on human life and yet we do not know if these events are isolated perturbations in the global environment, or are components of a longer term evolution as the world emerges from the effects of the last ice age. The Carboniferous sedimentary rock record is a natural laboratory for investigating high frequency processes, such as climate change, in the context of long, geological time-scales. The assembly of a supercontinent during the Carboniferous created a Himalayan-scale mountain belt at low latitudes and large land-locked ice sheets extended across the southern

hemisphere of this supercontinent. The European and Canadian basins lay north of this mountain chain and were once part of a 1000 km wide semi-enclosed tropical sea which extended for over 4000 km, from Canada to the open ocean in Russia. Rivers, deltas and submarine fan systems supplying sediment to these basins responded to high magnitude sea-level fluctuations created by periodic melting and growth of the ice sheets. In this ice-prone world, the responses of sedimentary systems are preserved in rocks from the UK Pennines, Western Ireland and Eastern Canada and enable periods of global low and high sea-level to be identified. The Carboniferous can then be used as an analogue to understand how sedimentation systems may respond to future short-term climatic fluctuations.

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Wednesday January 26th 2000

The Geophysics of Continental Rifts

Professor M. Aftab Khan  
Department of Geology, University of Leicester, Leicester LE1  
7RH, UK

A continental rift is defined as an elongate tectonic depression associated with which the entire lithosphere has been modified in extension. They are fundamental features of the earth. The origin of the major ocean basins can be traced back to a continental rift. A comparison of what is known about the deep structure of the East African, Rio Grande, European, and Siberian Rifts from seismic, gravity and other geophysical studies is made as an aid to understanding the underlying rift processes and to identify priorities for future research. The Rio Grande and Kenya Rifts are the best known. They are of similar dimensions and extent. The seismic and gravity data show that the basement structures of both

are very complex. Refraction studies show that both are associated with narrow zones where the crust is thinned by 5-15km. P-wave delays and gravity anomalies indicate broader zones of major lithospheric thinning. They are also associated with high electrical conductivity and heat flow. However, there are major differences in their tectonic and volcanic histories. The volume of extrusives in the Rio Grande is less than 10% of that in Kenya where major variations in composition and location with time are also observed.

In Europe, there is crustal thinning of 10-20% associated with some parts of the system. There is also much upper mantle heterogeneity. Low velocity zones coincide with those of volcanic activity and high heat flow. In the Baikal region, some crustal thinning has been inferred from the gravity data. Deep seismic studies indicate a wide low velocity in the uppermost mantle beneath South Baikal. Complex but high heat flow and electrical conductivity patterns are also observed in the rift. Fuller details of the geology and geophysics of Baikal will be discussed in the field.

It is clear that there are many similarities and differences between the rifts under consideration but there are important gaps in our knowledge which need to be targetted to enhance our understanding of their structure and development. The emergence of large numbers of compact digital recorders for seismic and MT studies in 2 and 3-D makes it timely to generate proposals for a new phase of high resolution crustal studies.

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## 150TH DINNER AND GUEST LECTURE

By the time you read this, you should all have received your circulars giving details of our 150th anniversary dinner on Saturday October 30th at New Walk Museum, including wine reception and guest lecture. I hope you have also filled in the reply slip indicating your intention to attend! But in case any of you have temporarily allowed it to slip your minds, this is to put it back again in the forefront. And also to give the very good news that I have secured the services of Dr Martin Brasier from Oxford University as guest lecturer. This is quite a coup for the Section and I hope you will come along for what promises to be a first class and very approachable talk. Dr Brasier is one of our foremost palaeontologists and micropalaeontologists and specialises (amongst his many other palaeontological interests) in studies of the early biosphere, early animals and the so-called 'Cambrian Explosion'. He may be known to many of you as the author of the standard British microfossil textbook, 'Microfossils'. He has chosen a most appropriate subject for his lecture, which will be entitled:

"The Charnia fauna and Global Chaos in the late Precambrian"

The lecture will be open to all.

The programme for the 30th will be:

5.00 pm Guest Lecture. Dr Martin Brasier (Oxford University). To be held in the Victorian Gallery of New Walk Museum.

6.15 pm Assemble for Wine Reception.

7.30 pm 150th Anniversary Dinner, with after dinner speaker (to be announced).

Let's see you there!

Andrew Swift



## WEEKEND EXCURSION TO THE ISLE OF WIGHT

JUNE 18TH - 20TH 1999

Following on from the success of the Watchet weekend last year, we ran an equally successful trip to the Isle of Wight in June. The weather was superb and the geology on this classic island as good as might be expected. It was also a happy coincidence that the timing of the trip was almost 150 years to the day since the founding of the Section. This momentous anniversary was toasted at appropriate points through the weekend. It was quite a weekend for anniversaries all round, as we also had a birthday (Gary Freestone) and a wedding anniversary (Kingsley and Phoebe Lloyd). The fun started for several of us before we'd even set foot on the island with a good-humoured and high-spirited crossing from Southampton to Cowes on the ferry, the Red Osprey. The weather at this stage was already unbelievably good, and it wasn't until later that we realised it was a little TOO fine, as many of the 18 participants felt the effects of what must have been a hole in the ozone layer over the Isle of Wight. Certainly, I've never witnessed quite so much intense burning in a party before. Robin Mackenzie was particularly badly affected, but soldiered on gamely through the weekend.

We commandeered two hotels in Shanklin for our base, the Swiss Cottage and the Royal George, and our hosts proved to be friendly and helpful. Our programme began on the Friday night when one of our leaders, Dave Martill, who lives on the island, came across from his home to give us a run-down on the geology we were going to see. Afterwards the socialites of the group mounted an expedition into Shanklin, only to find that Shanklin goes to bed early on Friday (and indeed Saturday too). This didn't deter a splinter group from enlivening proceedings at the local 'night club'. Indeed this spirit of adventure continued later as a lively (but unwanted) interchange of sleeping arrangements was undertaken between hotels. Some modification of infrastructure was also felt to be necessary.

Saturday morning eventually dawned (too soon I fear for some) with a cloudless sky and we set off in flotilla to Sandown for a visit to the Museum of Isle of Wight Geology. Here we met our leader for the day, the assistant curator at the museum, Martin Munt. Martin explained the rationale of the museum and its displays and also described the Tertiary geology we would see during the day. Before leaving we had a look round the exhibits. And then off to our first locality, Howgate Bay near Bembridge, to see the Bembridge Marls and Bembridge Limestone (Late Eocene), which are so well exposed there. The fossils, mostly familiar-looking bivalves and gastropods, were beautiful when fresh, but soon broke up when extraction was attempted. The mammal and reptile remains for which these beds are also known, were much less common, and we had little luck. The real interest in these beds, and indeed the rest of the Late Cretaceous/Tertiary sequence on the island, is in the rapidly fluctuating conditions in the basin, which gave rise to rocks deposited during all stages of salinity from freshwater to fully marine, with fascinating floras and faunas which reflect these

changes. We also briefly saw Pleistocene gravels, which were the youngest rocks we encountered during the weekend. As lunchtime came around we walked back to our starting point and colonised the fine local pub which provided another chance for the party to indulge the excellent camaraderie which grew up during the weekend.

After lunch we walked westwards along the coast to Whitecliff Bay, a justifiably famous locality, to see the Cretaceous/Tertiary transition, which exposes a sequence from the top of the Chalk to the Bembridge Limestone. It was necessary at times to pinch oneself to be reminded that things were indeed real, as we examined classic geology in a perfect setting in brilliant weather. But at last it was time to depart and gird our loins to carry our 'bags' the few miles back to the cars in Howgate Road. The evening followed much the same course as the previous one, but some difficulties were experienced finding meals which was one of the few down points of the day.

We had been warned of deteriorating weather on the Sunday, and the skies were greyer and threatening with rain as we checked out of our hotels and drove off behind our leader Dave Martill in his Land-Rover. But gradually as the morning passed the skies cleared and by afternoon all was fine and bright again. Today's itinerary took us initially to the oldest beds on the island, the Wealden rocks at Hanover Point. A sense of excitement gripped the party at this locality, as we were told that much dinosaur material had been found here. Eager hunters spread out to hunt the prey, but alas the dinosaur herds had migrated; however, they had left their footprints, which were most impressive. Lunchtime was spent in the charming hamlet of Freshwater Bay and then we drove back a little eastwards to look at higher Wealden beds, Gault, Greensand and Chalk in Compton Bay. As the afternoon passed pleasantly, people were reluctantly obliged to consult their watches, and soon the party was splitting up to catch ferries or return to bases on the island. We thanked our leader for his excellent stewardship, and I must record thanks here too for the first class leadership of Martin Munt on the Saturday, and also the efficiency of the hotel and other arrangements as undertaken by Joanne Norris. Thus ended a most enjoyable and happy weekend - where to next year?

Andrew Swift

## FIELD TRIP TO THE WELSH BORDERLAND

SUNDAY AUGUST 8TH 1999

In contrast to our other field trips of the last summer of the 20th century, our visit to the Welsh borderlands was held under very grey skies, which produced increasing amounts of rain during the day. But this failed to dampen the spirits of the excellent party of 22 which made the trip. Travelling arrangements were a



departure for the Section, as for this trip we acquired a minibus to transport a number of the group. This was through the kind offices of Graham Stocks, who hired the New Parks School minibus and drove it for us. This plan worked well, and we noted this as a 'good thing' for the future. What certainly wasn't a good thing was the unavoidable last minute withdrawal of the scheduled leader of the trip, Dr Paul Smith from Birmingham University, on the Wednesday beforehand. Likely suspects were considered as substitutes but all were unavailable for various reasons, so it devolved upon the Chairman to step in. This involved a hasty trawl through the recesses of a mind conditioned to contemplating only those rocks laid down less than 210 million years ago, to recall details of field trips undertaken to the Welsh borderlands in the mists of time. However, field notes fortuitously retained, and help from colleagues and Dr Smith, resulted in a ?passable impersonation of an informed leader.

Our first locality was the viewpoint on the Wenlock Edge road beyond Much Wenlock, for an overview of the geology of the area and a review of the itinerary for the day, which was chosen to concentrate on Silurian localities. Mist rolled over the countryside spread before us which regrettably obscured the geological points of interest. From the viewpoint we drove the short distance to the car park of the Wenlock Edge Inn, where, after delicate negotiations with the landlord, we eventually were allowed to park and walk through to Ippikin's Rock, a famous Wenlock Limestone reef and viewpoint. After studying the reef and its foundation, we walked downhill on slippery paths to the trail along the old railway line. Here we found the expected exposures of the shales of the Apedale Member underlying the Wenlock Limestone Formation. These were passably fossiliferous, and it was here that our only trilobite fragment of the day surfaced.

After Ippikin's Rock we set off on a rather tortuous route to View Edge quarries, not far from Ludlow. These were opened to exploit the Aymestry Limestone of the Ludlow Series. The limestones are quite pure and crystalline and contain an interesting suite of fossils, dominated by large examples of the brachiopod *Kirkidium knightii*. Unlike the other localities that were visited, we were free to hammer here, and the party duly took advantage of this. From View Edge we descended into Ludlow for lunch. Being a large party precluded us all being able to eat together, so the party split up into foraging parties. Some evidently prospered more than others, and certain members were seen returning from the town brandishing wine bottles, having had the traditional 'good lunch'!

The afternoon was spent in the environs of Mortimer Forest, near Ludlow. We called at the SSSI and International Stratotype locality of Pitch Coppice first, to see the type section for the Wenlock/Ludlow boundary. Our last call of the day was to Gorsty, on a forest track. This road cutting into Upper Elton Beds of Ludlow age proved a popular site, notwithstanding the rain which was falling quite heavily by now. One of the attractions was the common occurrence of graptolites here, together with other elements of the rather odd fauna like inarticulate brachiopods and orthocone nautiloids.

The journey back was trying for all, as very heavy rain fell and the traffic on the accursed M6 was nose to tail. Some took an alternative route but, like everybody else, were grateful to reach home safe and sound. But memories of a successful day spent in a lovely part of the world were not to be diminished by such difficulties.

Andrew Swift

## NORTHCOT BRICK WORKS, BLOCKLEY

Sunday 5<sup>th</sup> September 1999

With the sun shining our party of 15, that included two new members, assembled at the gates of the pit at 10.30pm and were met by our leader for the day, Pete Blake. Pete has been to the pit many times over the years and explained the stratigraphy to the group before letting them loose into the pit. It was very nice to see Dr. Bob King, our Life President, was able to get from his home in Tewkesbury to one of the field meetings.

The Upper Clays of the Lower Lias that are exposed are very fossiliferous and many good specimens were found including a near complete *Lytoceras fimbriatum*. Other ammonites were found in small quantities and of course many and varied bivalves turned up including an excellent specimen of *Inoceramus pinnaeformis*. The base of the pit, where the quarrymen had put the spoil from the drainage sump, provided a number of terbrachillid brachiopods and one brachiopod resembling *Lobothyris*.

As the day went on the sun beat down remorselessly so by mid afternoon the group gathered and decided to call it a day. We said thank you to Pete for a really wonderful day and set off home.



## FIELD TRIP TO ANCASTER, SUNDAY 23<sup>rd</sup> MAY 1999

The first field trip of the 1999 summer season got off to a good start with an interesting visit to two quarries at Ancaster. John Aram, our leader from Fulbeck in Lincolnshire, had selected the quarries to show not only the geology of the area but also to demonstrate the different ways in which the stone was worked.

The morning was spent in Gregory's Quarry where the Ancaster Rag is quarried "by hand". A row of holes, 40 to 50 cm. deep, are drilled around the area of stone being worked, metal strips called feathers are put into the holes and then long steel wedges are slipped between the feathers. Using large sledgehammers the wedges are driven in turn into the holes and eventually the pressure causes the rock to split along a bedding plane. This leaves the quarryman with a large block of very good quality stone weighing between two and three tonnes and worth a few hundred pounds. The stone from the quarries in this area is of a very high quality, and is used in restoring churches and other important buildings.

Above the Ancaster Rag facies of the Lincolnshire Limestone sits two to three metres of Upper Estuarine Series deposits. Macrofossils are scarce but ostracod microfossils are numerous and well preserved, which pleased our chairman. The Upper Estuarine Series passes up into the Great Oolite where a rhynchonellid brachiopod and a bivalve, *Liostrea*, were found. The brachiopods occur in a crushed or distorted condition.

For lunch the party went off in different directions. Some people had brought sandwiches and had a picnic, while others went off to Ancaster to find light refreshment (the pub).

After lunch the party assembled at the second location, the Realstone Quarry. Although the quarry was only a few hundred

metres from where we had been in the morning, the geology had a number of small differences and the method of extracting the stone was very different. Whereas the stone in the first quarry had been worked carefully by hand, here the stone was blasted out with explosives. The main stone sold out of this quarry is Ancaster Freestone with a subsidiary amount of Ancaster Rag. Fossils were present in the Lincolnshire Limestone (e.g. *Trigonia* sp.) but they were impossible to collect due to the hardness of the rock.

Overlying the Freestones were rocks of the Upper Estuarine Series, some of which were of a green colour. These beds then pass into the Blisworth Limestone and Blisworth Clay and are overlain by the Cornbrash. The Cornbrash is very fossiliferous with well-preserved specimens of a number of species of brachiopod and numerous internal casts of bivalves. Many echinoids were found including some good specimens of *Clypeus*. Gastropods were not so frequent but a small piece of *Bactroptyxis* sp. and a specimen of a '*Natica*' were collected.

The group spent quite a while sorting through the Cornbrash with everyone finding plenty, but all good things must come to an end and so we thanked the leader, John Aram, for a very interesting day and set off for home.

### GEORGE SNOWBALL

Older members of the Geology Section will be saddened to hear of the recent death of George Snowball. He was killed when his car ran off the road coming down a steep hill off the Cotswolds. George was appointed Keeper of Geology in Leicester Museum in 1947, filling a post which had been allowed to lapse during World War II. The Geology Section of the Lit & Phil had also lapsed and George was amongst those who resuscitated it in the early 1950s, along with Bob King and "Mac" Whitaker. George left Leicester Museum in the late 1950s and took a post as Records Officer for the Geological Survey of Northern Rhodesia (later Zambia). Subsequently he moved to Canada where he became an assistant librarian for Sir George Williams University in Montreal. He retired about 12 years ago and returned to England to live in Cheltenham with his wife Sylvia. She was badly injured in the car crash but is recovering. They had no children.



## HICKS LODGE OPENCAST MINE

Sixteen members of the section met at the site office of R.J.B. Mining's Hicks Lodge opencast mine near Moira in north west Leicestershire. Everyone was kitted out in full safety gear including a high visibility jacket and after a short introductory talk by the site manager, Mr. Peter Greenwood, we climbed into two Land Rovers they had hired especially for the day.

Bouncing along the rutted site roads into the mine everyone was very grateful the vehicles were so well upholstered. The extensive site opened up in front of us with the small lorries running around in the bottom. It wasn't until we got to the base of the pit that you realized that these lorries and dump trucks were huge. The excavators that worked along side took only three of their large fifteen tonne buckets to fill a dump truck.

The coal is here laid down in seams, some of which are only eighteen inches deep, with clay bands between. The coal is from the upper Middle Coal Measures. Coal from this mine is moved by rail to power stations in the area. The clay is also sold, it being used by the local pottery industry.

An unusual feature of the site is an island of about one acre with a coppice of mature trees covering it. It is being left by R.J.B. Mining to help with the reinstatement of the land when mining has finished. This area of north west Leicestershire has been set aside for the National Forest and the next site we were taken to was Wood Farm which is now part of the National Forest. Wood Farm was until two years ago worked as an open cast site but it is now rolling grassland that is planted with some forty thousand trees. Hicks Lodge will look similar in two years time when mining has finished.

After an excellent morning with R.J.B. and lunch at a local public house, Paul Monk, our leader for the afternoon, took the party around the local sites of geological and archeological interest.

Mining and the study of the geology has been going on for hundreds of years in the area with the main land owner taking a key role in its development.

The furnace at Moira was an impressive building having just been fully restored. When originally built it worked for only a few months before closing down. The canal at the rear of the building is also being restored to its former glory. In some of the spoil that had been dredged out of the canal two very old shoes, possibly Victorian, were found. One has gone to Snibston Discovery Park while the other is with the local museum at Ashby de la Zouch.

Three other sites were visited including the last piece of local ancient heathland. Paul kept the group busy until 4.30 pm when we thanked him for organizing such an interesting and varied day before leaving for home.

## EDITORIAL

I'm not sure about the value of an editorial for 'Charnia', so I've decided to place it right at the back of this er..., is it a magazine or a newsletter? Newsletters convey little more than dates, times, venues and titles of talks, so perhaps the extra depth may be welcomed by the majority of readers. Feedback is useful in situations like this - even if it could put me out of a job!

On occasions, the content for any editorial comment is clear-cut, at other times not quite so. One item which caught my eye was the publication in early September of Steve Jones' 'Almost Like a Whale: The Origin of Species Updated'. I can only conclude that he has been reading 'Charnia' and is guilty of plagiarism, re. last edition's editorial and the content of his book! Something else which might cause wry amusement will be that some bright spark connected with Channel 4 will announce that certain animals are sensitive to changes immediately prior to an earthquake because of piezoelectric fields. As with many popular TV science docutainments, viewers are invited to e-mail queries and comments, which I duly did following a programme about earthquakes. I asked if siliceous rocks could generate electric charges strong enough to be detected when seismic stresses and strains build up. I asked this question because I had read somewhere about eerie blue glowing light over the ground in an area made of Millstone Grit deposits. I won't bother e-mailing again - not even an acknowledgement was forthcoming!

As I'm writing this, news is coming in of a Richter 8.1 earthquake in Taiwan. On September 1st. a Richter 3.3 tremor was recorded in North Wales. Geology is constantly in the news but most of us aren't in a position to read any specialist magazines or even more general journals, such as 'New Scientist' or 'Nature'. This is why the Lit & Phil has such an important function to fulfil in bridging this gap. Long may it continue! To mark the 150th. Anniversary a local artist, Gareth Browne of Loughborough, has designed the Autumn issue front cover. Another Gary, of dubious artistic merit, designed the back cover of 'Charnia'!

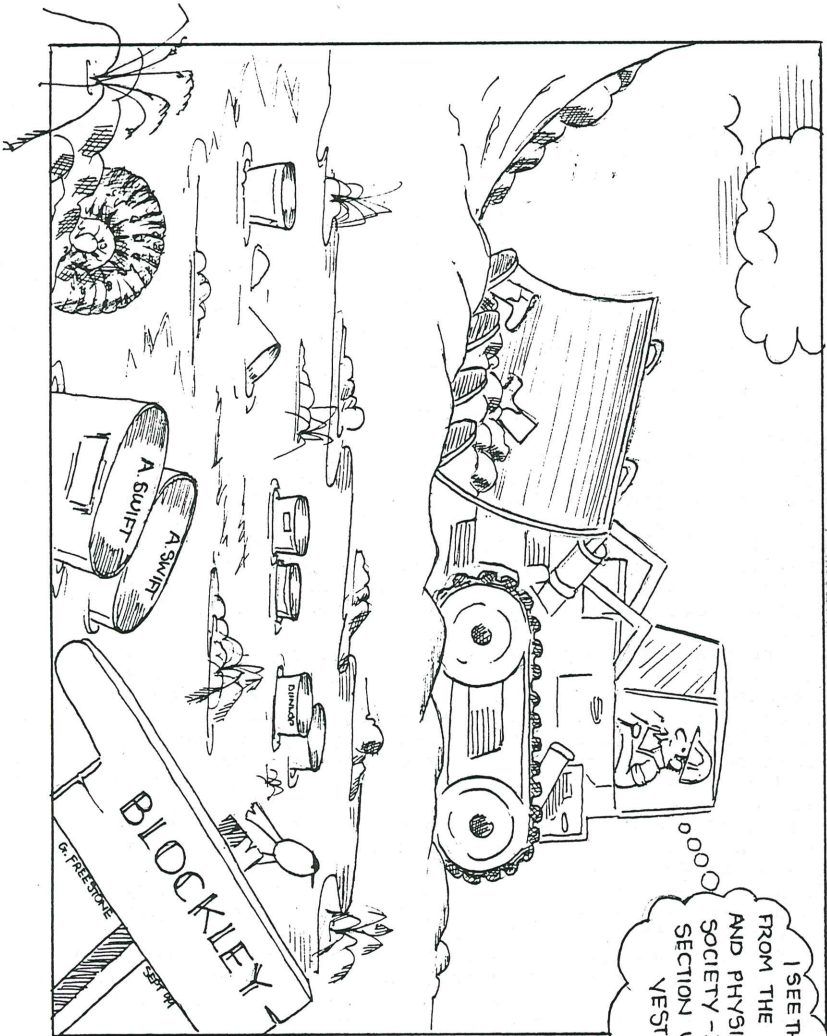
I keep a newspaper clipping file of geological items, much to my wife's annoyance. Trawling through this (always a good stand-by when editorial ideas are a bit thin) the following are noteworthy: to a the question 'What would mankind be like if the dinosaurs hadn't disappeared 56M years ago?' one wag wrote that we would be able to run a lot faster, and another wit wrote that we would have car-stickers saying 'A Stegosaurus is for life, not just for Christmas'.

In early August the enlightened world learned of the Kansas Board of Education's monumental decision to erase Darwin and evolution from the school curriculum. Apparently, 44% of Americans believe in the literal biblical creation story. Science text-books in Alabama bear a sticker stating that evolution is a 'controversial theory'. It adds that since 'no one was present when life first appeared... any statement about life's origins should be considered a theory and not a fact.' I wonder if science students reading these books choose careers in geology or astronomy? I'm also wondering where this leaves the news about the discovery of the earliest known biomolecules in Australia's Marra Mamba Formation? Perhaps the biggest recent geological events have been the Turkish and Greek earthquakes. It strikes me as being a little odd that other countries using Turkey as a forward air-base do not appear to be contributing much more than a token effort in relieving the human suffering there.

Finally, the British Association Meeting always throws up interesting ideas: this year's winner is the dissolving gypsum of Hell's Kettles near Ripon accounting for Alice's Adventures in Wonderland. Alice lived in Ripon and Carroll/Dodgson new about these sink-holes which periodically opened up.

GA.





I SEE THAT LOT  
FROM THE ILLITERACY  
AND PHYSIOSOPHICAL  
SOCIETY - JOLLOLOGY  
SECTION WERE YERE  
YESTERDAY