Newsletter No. 283
February 2024

Copy date for the next Newsletter is Monday 1 April

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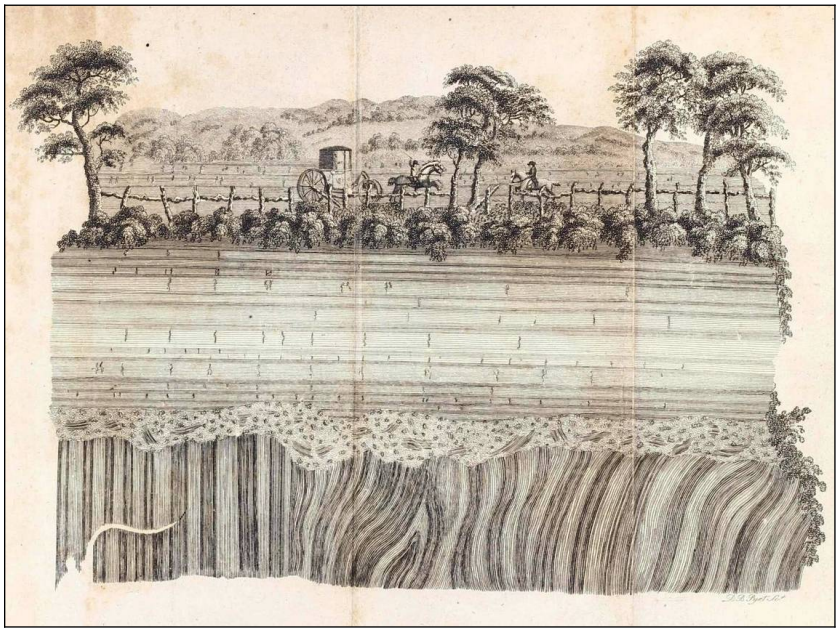
To find out more about this photo - read on!



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For enquiries about field and geoconservation meetings please contact the Field Secretary. To submit items for the Newsletter please contact the Newsletter Editor. **For all other business and enquiries please contact the Honorary Secretary.** For more information see our website: bcgs.info, YouTube, Twitter: @BCGeoSoc and Facebook.		

Future Programme

Indoor meetings are normally held in the Abbey Room at the Dudley Archives, Tipton Road, Dudley, DY1 4SQ, 7.30 for 8.00 o'clock start unless stated otherwise.

Visitors are welcome to attend BCGS events but there will be a charge of £1.00.

Monday 19 February *(Indoor Meeting):* 'A very British summer in the late Triassic: the Arden Sandstone Formation of the English West Midlands and the dawn of the dinosaurs'. Speaker: Prof. Stuart Burley. The Arden Sandstone Formation of central and western England is a thin but conspicuous arenaceous unit within the Late Triassic Mercia Mudstone Group. Sedimentological and palaeontological data point to lacustrine depositional conditions, in contrast to the red desert mudstones above and below which were deposited as continental dry land desert floodplains. The Arden Sandstone records deposits of the lake margins and may be the high stand lateral equivalent of the halite and gypsum deposits which formed in the lake centre. The Carnian age of the Arden Sandstone potentially links it to the Carnian Pluvial Episode, marking the coalescence, spread and freshening of the formerly saline desert lakes, and deposition of sandy, fluvial and lacustrine deposits during the wetter climate that prevailed for at least a million years.

Saturday 24 February *(Geoconservation Day):* Wren's Nest. Directed by the reserve wardens. Meet at 10.30 at the wardens' office at the end of Fossil View, off Wren's Hill Road (GR: SO 93699 92118). Park along Fossil View. The day will involve scrub clearance. Bring gloves, stout footwear and packed lunch. Wardens will provide tools, hard hats if necessary and a hot drink. Finish around 2.30.

Saturday 9 March 2024 *(Geoconservation Day):* Saltwells National Nature Reserve. TBC whether these works will be undertaken under the guidance of the reserve wardens or on our own. **It is therefore imperative that you inform the field secretary of your intention to attend these works.** Meet at the Nature Reserve car park (grid ref: SO933869) on Saltwells Lane, 9.45 for a 10.00 start. Wear old work clothes, waterproofs and stout footwear or wellies. Please bring gloves and garden tools: hand brushes, trowels, loppers, secateurs, forks and spades if you have them. Either bring a packed lunch or hot food can be obtained from the Saltwells Inn adjacent to the car park. Finish at 2.30.

Monday 18 March *(Indoor Meeting):* **AGM** followed by: **'Deep geological disposal of radioactive waste in the UK'. Speaker: Rachel Burgess.**

Saturday 6 April *(Field Meeting):* **Castleton, Derbyshire looking at the limestones in Cave Dale and the sandstones and landslip on Mam Tor.** Led by Albert Benghiat (Shropshire Geological Society). Meet at 10.30 outside Castleton Visitor Centre, Buxton Road, Castleton, S33 8WN where there are toilets and a large pay and display car park. The morning walk will be around 4km through Cave Dale along good paths but sometimes uneven ground. Please wear suitable clothes and footwear. Some of the sites are quite exposed. Bring a packed lunch. There are pubs in in Castleton for refreshment at the end of the day. Finish around 4.00.

Monday 15 April *(Indoor Meeting):* **'Geology of the Chiltern Hills; new data & new interpretations'. Speaker: Dr. Haydon Bailey** (Geological Adviser, The Chiltern Society). The Chiltern Hills are underlain by Chalk, predominantly lithostratigraphic units traditionally called the Lower and Middle Chalk (the latter now the lower part of the White Chalk Group) capped by the Top Rock - Chalk Rock complex. It is this series of chalk hardgrounds which effectively forms the spine of the Chiltern Escarpment. The Chalk dips gently into the London Basin, and the overlying basal Tertiary succession provides minor outliers around this northern rim of the basin. The other major geological event we have to recognise in this area is the re-routing of the Proto-Thames River during and following the Anglian glaciation, some 450,000 years ago. This created the landscape we currently see in much of the southern parts of the Chilterns. Geological mapping of the region by the BGS over the last ten years and ground investigations resulting from the ongoing construction of the HS2 High Speed rail link have greatly added to our knowledge of the regional geology. Add to this the recognition that subsurface movement of water through the chalk is far more prevalent than previously identified, then this means that we're still learning a whole load more about the geological development of the hills which form the northern margin of the London Basin.

Saturday 11 May *(Field Meeting):* **Central Malverns Complexes.** Led by John Moseley (Gloucestershire Conservation Trust). We will look at the Upper Silurian and Llandovery/Malvernian unconformity. Bring a packed lunch. Start point and parking TBC. Meet at 10.00 and aim to finish by 4.00.

Saturday 8 June *(Field Meeting):* **BGS open Day at Keyworth.** We are planning to attend this event as a BCGS outing. Details TBC. Please let the Field Secretary know ASAP whether you would like to attend, as we need to organise tickets.

Other Societies and Events

Lapworth Lectures

Monday 19 February at 5.30: 'Past CO_2 release events: how we study their causes and consequences'. Speaker: Pam Vervoort, University of Birmingham.

Venue: Aston Webb Lecture Theatre WG5, University of Birmingham. For more details go to: Lapworth Lectures & Events

Teme Valley Geological Society

Monday 26 February: 'Pulling apart magma and the associated control on eruption style'. Speaker: Dr Thomas Jones, Lancaster University.

Monday 25 March: 'Scotland's Greatest Ice Age'. Speaker: Ian Fairchild, Emeritus Professor, University of Birmingham.

Talks take place in Martley Memorial Hall at 7.30. Non-members £3. For further information email: enquire@geo-village.org or visit: https://geo-village.eu/

Manchester Geological Association

Wednesday 28 February at 7.00 (Zoom meeting): 'Worms and Wonders: Silurian 3D Soft-Bodied Fossils'. Speaker: Dr Mark Sutton, Imperial College London.

Thursday 21 March at 5.15: 'Sediments and climate change'. Speaker: Dr Rhodri Jerrett, Manchester University. Venue: Manchester Metropolitan University, Brooks Building on Birley Campus. Joint with the Manchester Branch of the Geographical Association.

For more information: http://www.mangeolassoc.org.uk/ or contact lectures@mangeolassoc.org.uk

Woolhope Naturalists' Field Club - Geology Section

Saturday 17 February at 2.15: 'Glaciations of the British Isles, with reference to The Marches'. Speaker: Prof. Jim Rose.

Friday 8 March at 6.00: 'Latest update and explanation of "The Anthropocene"'. Speaker: Prof. Ian Fairchild.

Non-members of the Club pay £2. Visit: https://www.woolhopeclub.org.uk/meetings Lectures are held in the Town Hall, Hereford. Non-members are welcome.

Warwickshire Geological Conservation Group

Thursday 15 February: 'Geology & Caves of N / NE Greenland - physical record'. Speaker: Paul Smith.

Thursday 21 March: 'Charnwood (Ediacaran) fossils'. Speaker: Frankie Dunn.

There is a charge of £2.00 for non-members. Indoor meetings are both live at St Francis, Kenilworth and by Zoom starting at 7.30. For more information visit: http://www.wgcg.co.uk/ or email: WarwickshireGCG@gmail.com.

Geological Society, West Midlands Regional Group

Tuesday 13 February: 'Newly Identified Glacial Features in Birmingham'. Speaker: Joe Mazgajczyk (Mott MacDonald).

Tuesday 12 March: 'Radium Contamination'. Speaker: Jen Barnes (Jacobs).

Lectures are being held at Mott MacDonald, 10 Livery St, Birmingham, B3 3NU and by Zoom. They commence at 6.00 for 6.30. For further details please contact the Group Secretary at: geolsoc_wmrg@live.co.uk Click here for website.

East Midlands Geological Society

Saturday 10 February: 'Diamond Geology'. Speaker: Dr Tony Waltham, President, East Midlands Geological Society.

Saturday 9 March: 'Geology of Stonehenge and the Bluestone controversy'. Speaker: Professor Peter Worsley, Emeritus Professor of Quaternary Geology, University of Reading.

Non-members are welcome and should register with the secretary. Meetings will be held at 6.00 in the Geography Department of Nottingham University, which is in the Sir Clive Granger Building. Further info: www.emgs.org.uk or email: secretary@emgs.org.uk

Shropshire Geological Society

Wednesday 14 February: 'Darwin Lecture: Darwin and the Ice Age in Shrewsbury'. Speaker: Mike Streetly.

Wednesday 13 March: 'Geothermal Energy'. Speaker: Ian Stimpson, Keele University.

Meetings commence at 7.15 for 7.30. Lectures are now being held in hybrid form, in person at the University Centre, Shrewsbury, as well as by Zoom. If you wish to attend please contact Albert Benghiat: 07710 421 581, email: SGS.chair@hotmail.com
Further information: http://www.shropshiregeology.org.uk/SGS/SGSEvents.htm

North Staffordshire Group of the Geologists' Association

Thursday 8 February: 'The NW Highlands Controversy: Geology, geologists and social climbing in Victorian times'. Speaker: Dr Peter Gutteridge, Manchester University.

Meetings are normally held at 7.30 in Room WS0.06, William Smith Building, Keele University.
For more information: https://nsgga.org/

The Geologists' Association

Friday 15 March (hybrid meeting): 'Reading the Sahara - Stories in the landscapes'. Speaker: Ted Dubowski GA Hon. Gen. Sec.

Friday 5 April (via Zoom): 'Here be sea monsters: new perspectives on fossil marine tetrapods'. Speaker: Dr Rebecca Bennion, North Craven Life Museum.

Our hybrid lectures will be held both in the Janet Watson Lecture Theatre of the Geological Society, Burlington House, Piccadilly, W1V 0JU, & simultaneously over Zoom. Non-members are always welcome to attend for an introductory visit arranged by phoning (020 7434 9298) or emailing (sarah@geologistsassociation.org.uk) the Executive Secretary to book a place. The GA reserve the right to request a small charge for returning non-member attendance.

Mid Wales Geology Club

Wednesday 21 February: 'The North Atlantic Igneous Province'. Speaker: Chris Darmon.

Wednesday 20 March: 'The Castle Bank biota - Wales' answer to the Burgess Shales?' Speaker: Dr Joe Botting.

Further information: Tony Thorp tel. 01686 624820 and 622517 tonydolfor@gmail.com
Web: http://midwalesgeology.org.uk lectures start at 7.15 and are a hybrid of in person meetings at Plas Dolerw, Newtown, SY16 2EH and via Zoom. Those wishing to join a meeting remotely should contact the secretary, Chris Simpson, at christopher_s@btinternet.com

Editorial

This issue brings a tribute to Alf Cole who was a dedicated member of BCGS for many years, serving on the committee and holding the position of Chair until ill health eventually curbed his activities. We thank Mike Williams, our former Treasurer and continuing member, for his warm and sensitive tribute to Alf (below).

The mainstay of this Newsletter is a mind-boggling though entertaining Musing from Mike Allen, who I must personally thank for his unfailing delivery of thought-provoking items for his 'Musing' column, delivered with his inimitable humorous turn of phrase. Though initially heralded as an 'occasional' series, since Musing No. 1 in February 2016, Mike has challenged, informed and entertained us in every issue since then, and I can only hope that his enthusiasm and inspiration will continue to feed us long into the future! Thank you, Mike.

This, of course, highlights the fact that we are somewhat lacking in other items for this Newsletter. We would love to receive material from all of you. Please don't be shy to write, send photos or pose questions in these pages. The Newsletter belongs to all of us! ►

But the matter most on the minds of all of us on the committee, is the need for more people to be involved in planning and decision making for the Society. The AGM is coming up shortly. Please volunteer your services on the committee if you think you can help, by contacting the Secretary (details above) or talking to any committee members at our meetings. Next year will be our 50th Anniversary! We have a lot to be proud of, but please do your bit to make sure that BCGS can celebrate in style, and can continue to thrive into the future.

It's subscription time again! Details for payment are below. Please pay your subs as soon as possible if you haven't done so yet.

Finally, some of you may already receive notification about the twice yearly magazine 'Earth Heritage', but if not you can see and download the recently published Winter issue, No. 60 here: https://www.earthheritage.org.uk/ It is a nationwide mouthpiece for geoconservation and is always full of interesting articles. Back issues are available, it is free and you can subscribe individually – highly recommended! ■

Julie Schroder

Subscriptions 2024

Subscriptions were due on **1 January 2024.** If you haven't already paid then please send your cheque to: **Alan Clewlow, 19 Manor Court Road, Bromsgrove, Worcestershire, B60 3NW.** Cheques should be made payable to **'The Black Country Geological Society'**. Payment may also be made by bank transfer – see December's Newsletter for bank details.

A Life Remembered: Alf Cole 1932 - 2022

BCGS Committee Member and Polymath

My first acquaintance with Alf was some 25 years ago on one of Graham Worton's field trips introducing the geology of the Black Country. We soon established that we shared the same Alma Mater and before long Alf had persuaded me that I could make a contribution to BCGS by becoming a committee member.

Unassuming by nature, it soon became clear that Alf had a wide interest and knowledge of many subjects, not surprising for someone who held seven academic degrees and numerous certificates in Spanish, French, German and Latin. It was a pleasure to be in his company. He would always be available for field trips or supporting BCGS at various local events when the Society put on a stand hoping to widen its appeal and expand the membership. Often accompanied by 'The Boss' (wife Anne) complete with cake tin and thermos flask of tea, we would enjoy the banter such occasions bring. Later on, supporting a magnificent beard, he became a dead ringer for Uncle Albert of 'Only Fools & Horses' fame, but I don't remember him ever mentioning the Arctic convoys (from Uncle Albert's war tales)! ►

Alf was born in 1932 in Anfield, Liverpool, educated at the local grammar school and went on to obtain a place to read inorganic chemistry at Liverpool University, graduating with First Class Honours. Decidedly non-partisan in his football affiliations, he supported both Liverpool and Everton. He deemed a 1-1 draw between the two was always the best result. A keen cyclist, Alf had the distinction of being cautioned by the Liverpool Constabulary for speeding down Brownlow Hill on his bike, probably on his way to meet future wife Anne who he had met at University, where she was employed as a lab technician.

Alf Cole (right) with Graham Worton

They married in 1959. Soon after, they moved to Walsall in the West Midlands and Alf gained employment at Wolverhampton and Staffordshire Technical College (now the University of Wolverhampton) before moving to Chance Campus (now abandoned) of Sandwell College, as a lecturer teaching Chemistry.

Unsurprisingly Alf was a man who inspired others, especially those close to him, to do well in whatever they pursued. He was a strong believer in 'lifelong learning' and when the Open University came along he applied to read geology, only to be told "not only can you join the course, you can also become one of our lecturers please - with your background". Summer holidays would previously involve travelling by train and cycle between campsites. However, OU summer school commitments would now take up the whole of August. Cycling holidays were a recurrent theme for Alf and Anne, having in their youth cycled around France and Scandinavia. When retirement came along they bought a camper van and, complete with cycles, liked nothing better than disappearing off for a few weeks. Alf would say that 'The Boss' (a keen ornithologist) wants to do some birdwatching in Scotland so he needed to go along to make sure she didn't get into trouble.

I think it's true to say that later in life geology was Alf's true passion, always in attendance at BCGS meetings and with myself a founder member of the 'informal group of geologists' based at Church Stretton on the Welsh borderlands. He also had the unique distinction of applying alone to the Heritage Lottery Fund *(now the National Lottery Heritage Fund)* and obtaining a grant to develop the Hay Head Nature and Geological Trail. He told me there were a lot of hoops to jump through but he got there in the end and liked nothing better than leading groups including his grandson on visits to the trail which is today looked after by Walsall Conservation Volunteers to which both he and Anne belonged as members. *(Hay Head Quarry is now a Geosite within the Black Country Global Geopark. Ed.)*

Tempus fugit for all of us, so Alf, now in his 80s, had to slow down. With his memory starting to fail, he was diagnosed with dementia and spent his final three years in a care home. He passed away aged 89 on 29 April 2022. ►

My final thoughts are that here was a quiet man with a loving family - wife, two children, three grandchildren and two great grandchildren - inspiring others by his demeanour. Alf deserves to be remembered for his dignity and commitment not only to BCGS but also to those who knew him.

May he rest in peace, never forgotten. ■

Mike Williams

Special thanks to the Cole family, Joyce Jones and Martin Normanton in the preparation of this tribute.

Mike's Musings No. 49

Gobbledegook, or just a surfeit of jargon?

Having traduced the marketing moguls of the bottled-water industry in my last piece, it's only fair, perhaps, to have a go at the geological fraternity this time around. All fields of human endeavour develop their own shorthand, or jargon, and no doubt all to good purpose. But sometimes jargon can get in the way of understanding when used indiscriminately. I offer some examples of where, to varying degrees, I believe that technical language serves as much to hinder as to inform, especially when used without due consideration for the audience.

A favourite area for developing a system of technical shorthand arises in the pursuit of descriptive language where a number of variables need to be considered. Take, for example, the classification of limestones introduced into the geological dictionary by Folk in 1959. Based on textures seen best under the microscope, this distinguishes between limestones with a muddy matrix (**micrites**) or a calcite cement (**sparites**), each further subdivided on their principal fragmental components (or **'allochems'**): **ooliths, pellets, fossils** or **intraclasts**. Using the component **prefixes oo-, pel-, bio-** or **intra-** respectively, one ends up with an array of jargon words like **oomicrite, pelsparite, biomicrite** and **intrasparite** etc. So far, fairly straightforward. But this was further refined (complicated?) according to percentage of those 'allochems': **<1%** just plain **micrite**, **1-10% fossiliferous micrite, 10-50% sparse biomicrite** and **>50% packed biomicrite** (in the case of fossil fragments, a similar pattern of corresponding jargon terms would be used for each of the other allochems: **fossiliferous oomicrite, sparse pelmicrite, packed intramicrite** etc). It's not difficult to see that things get a little out of hand with such an approach, even with a receptive readership. Further refinements came along with a method devised by Dunham in 1962, which is actually the system of choice amongst professionals in this field today because it is more readily applied to rock specimens, outcrops and borehole cores. But for the average person, all this becomes rather unwieldy.

To select an example from the description of metamorphic rocks I turn to the multiplicity of terms used to describe rocks known as **migmatites**. These are 'mixed rocks' (Greek *'migma'* = mixture) of high metamorphic grade found in the base of eroded mountain chains, often in ancient cratons. The mixed aspect refers to the fact that they consist of two intimately mingled components: an older metamorphic host rock, (the **palaeosome;** 'some' from the Greek *'soma'* = body) and a younger granitic rock which is at least partly derived from an outside source, i.e. freshly introduced (the **neosome**). They provide a link between gneisses (metamorphic) and granites (igneous) in that they grade imperceptibly into one or the other of these 'end members'. The mixed character also reflects the fact that they consist of both light (**leucosome**) and dark (**melanosome**) components. Some descriptions also recognise an intermediately coloured constituent (**mesosome**)! Usually the palaeosome is darker (i.e. the ►

melanosome) and the neosome is paler (i.e. the leucosome), which begs the question, do we really need all these 'somes'? Well, probably yes, because of the unfortunate occasional exceptions to the rule! (There are always, in nature, exceptions to any rule we like to define!) To further bamboozle the uninitiated, migmatites come with a wide range of textures describing the way in which the light and dark components are assembled: they are not simply either interlayered like a gneiss, or speckled like a granite. These terms, (Fig. 1) however, seem reasonably justified, even if there are too many of them, as they do in some cases look rather similar to one another e.g. **agmatite** (a) and **dictyonite** (b), **phlebite** (d) and **folded** (g). ►

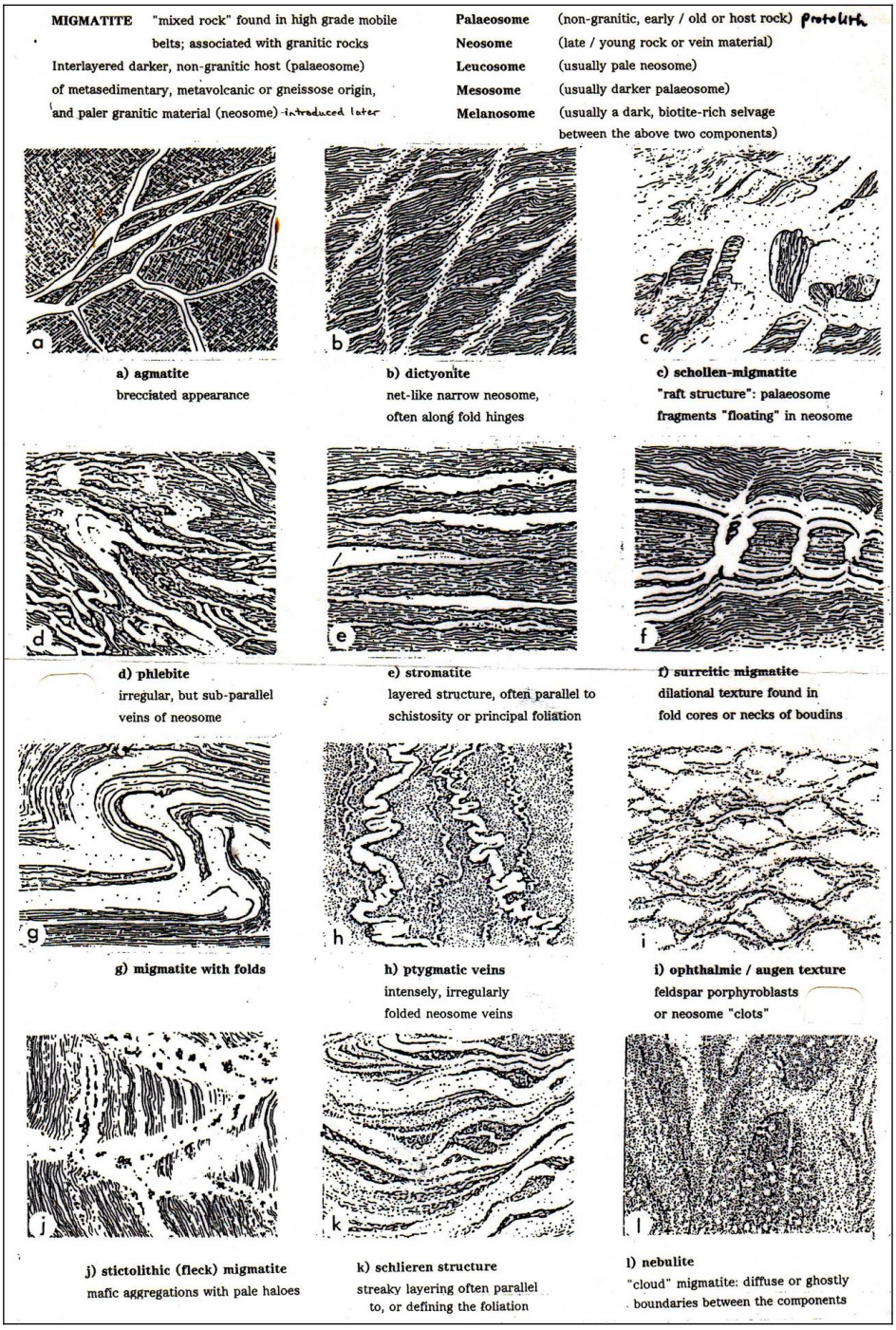

Fig. 1: Modified from the on-line version of 'Petrology' by D.R. Bowes, Springer, 1989

Fig. 2: Hutton's unconformity at Siccar Point. Photo by Dave Souza, Wikimedia Commons.

One subject which has potential for confusion is the terminology used to describe a break in a sedimentary sequence. The simplest manifestation of a hiatus in sedimentation is the **bedding plane** or **bedding surface**, which is normally understood to represent a break of short duration. Longer breaks in an otherwise continuous record lead to the concept of the **unconformity**, a surface which separates rocks of two different ages and implying that there was a period of uplift, erosion and perhaps tectonic activity between the older and younger rocks. It was Hutton who perhaps raised this concept to a high level with his celebrated trio of unconformities at Siccar Point (Fig. 2), Jedburgh *(see front cover photo)*[1] and on Arran. These are all examples where there is a clear angular discordance between two sets of sedimentary rock, but on occasion a similar time gap may be represented when the discordance is nil. In this circumstance it is not unreasonable to suggest a special term to describe things, and **parallel**, or **non-angular unconformity** would seem to fit, but the terms **disconformity** or **paraconformity** have often been used in this sense. Another situation that also requires a separate identity is where a sedimentary sequence is sharply interrupted by contact with a non-sedimentary rock, such as an igneous intrusion or a metamorphic rock mass. The term **nonconformity** has been in popular usage to describe this situation.

Since Hutton's time the nomenclature has grown to include **non-sequences** and **diastems,** both intended to suggest a time gap longer than a bedding plane, but shorter than an unconformity. Specialised terms such as **buttress, onlap** and **blended unconformities** and **xeno-conformities** may serve a purpose in rarefied circles! S.I. Tomkeieff proposed that unconformities may be simplified to just four types: **angular, parallel, non-depositional and heterolithic** (Fig. 3). Angular and parallel are (I hope) self-explanatory. Heterolithic types are Tomkeieff's preference for the nonconformity, while non-depositional types seem to be a bit of an extravagance but are used to imply a lack of tectonic disruption during the time interval implied by the unconformable relationship, younger rocks having been simply deposited over a highly ►

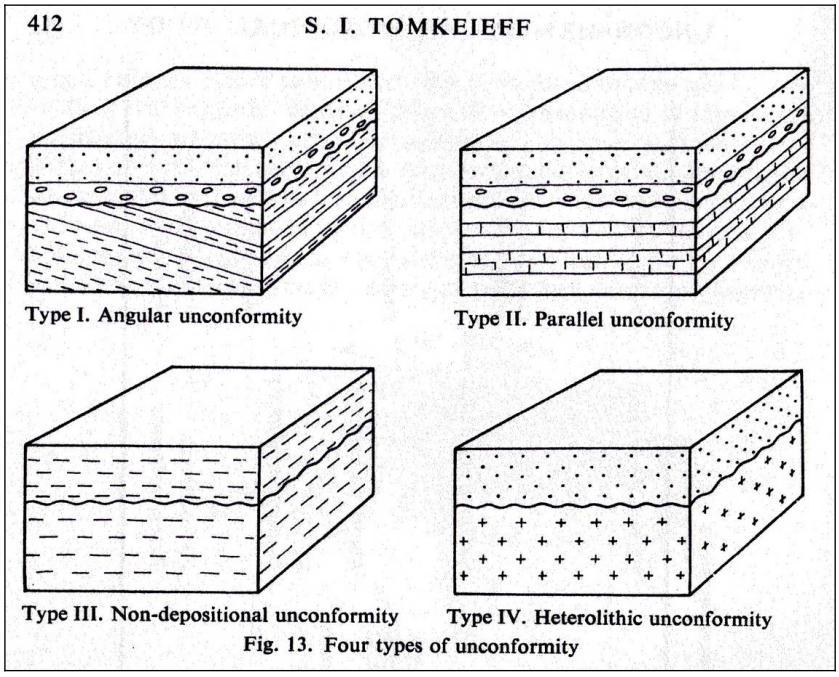

Fig. 3: Taken from Tomkeieff's paper in 'Proceedings of the Geologists' Association' No. 73, 1962, with permission.

irregular, eroded, landscape composed of older rocks. They all imply that a substantial 'geological' period of time has elapsed between the lower and upper rock sequences, although the length of that period remains rather subjective. He further mentions that alternative terms to describe unconformable relationships have been used by different authors, such as **clinounconformity, paraunconformity, hydrodialeima(!)** and **marine unconformity**, but more alarmingly that various terms are used by different authors to express the same meaning. This shows most clearly just how superfluous some of these terms are, and serve only to get in the way of understanding. There may be others that I have missed, but I think the point is made.

The most striking case of bamboozling terminology I have come across is, admittedly, somewhat dated, and may reflect the attitudes of a completely different age. It concerns the description of ammonites introduced by Sydney Savory Buckman in his 14-part 'Monograph of Inferior Oolite Ammonites' (issued between 1887 and 1907), in which he adopted a similar approach to my first example, using a language built up of many adjectival prefixes to arrive at compound terms for each morphological feature. A taste of his methodology can be gained just from his consideration of aspects of the **whorl shape**: to describe the number of whorls to achieve its adult dimension, if the ammonite consists of a few broad whorls it is termed **oligogyral**, if it has many narrow whorls it is **polygyral**. To describe the cross-sectional shape of the whorl, two dimensions need to be considered: the distance from inner margin to the periphery (breadth) and the distance from side to side (width). In terms of breadth, **stenogyral** indicates a narrow whorl, **platygyral** indicates a broad whorl; in terms of width, **pachygyral** indicates thick whorls, **leptogyral** indicates compressed whorls (Fig. 4).

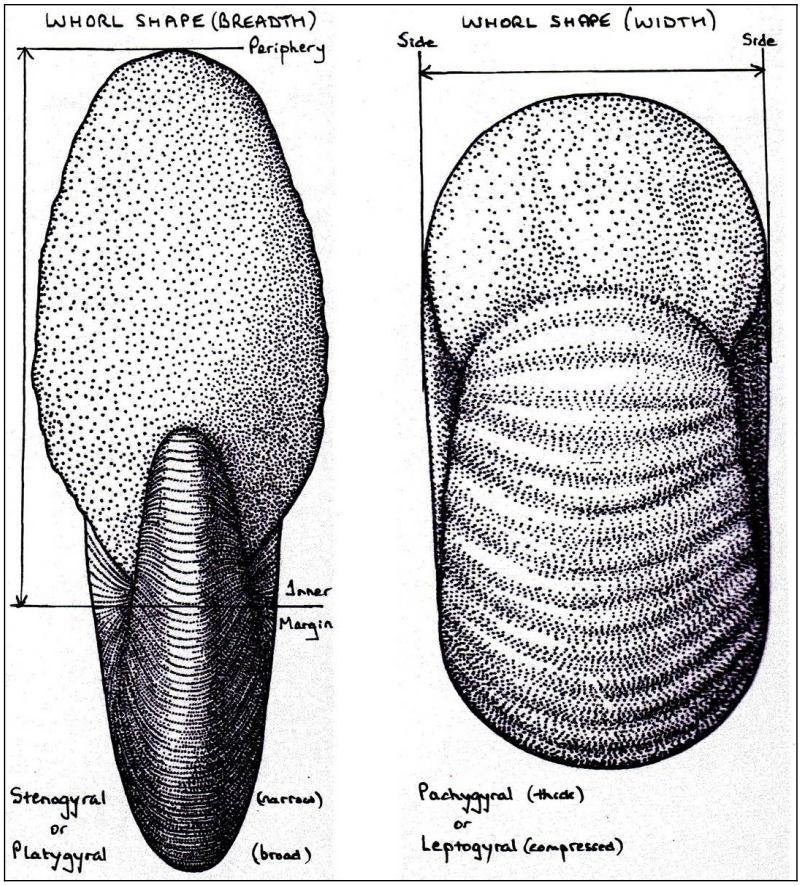

Fig. 4: Explanations for some aspects of 'Whorl Shape' (modified from images in the BMNH guide to Mesozoic Fossils)

Ornamentation is given similar treatment by Buckman. 'Normal' growth-lines are termed **stria**. Coarser ridges are termed **costa**; having large or small costae are described as **crassicostate** or **parvicostate** respectively, while having many or few costae are described as **densicostate** or **paucicostate**. Clearly it helped to have a classical education as many of these terms are derived from Greek or Latin. Various terms are used to describe the variety of tuberculation: **tubercle** is a general term, **spina** (conical), **bulla** (obtuse), **nodus** (rounded), and **papilla** (pimple-like) are more specific. The degree of ornamentation comes in for comparison with terms ranging from **crassornate** (highly ornamented), via **ornate** and **subornate** to **laevigate** (having no ornament). ►

Buckman's approach continues in consideration of the shape of the **peripheral margin: planate, convex, concave** are uncontroversial, but further terms such as **fastigate** (roof-shaped), **tabulate** (narrow and flat), **sulcate** (restricted concavity) and **carinate** (having a carina, which may be further elaborated as **alticarinate, parvicarinate** etc). I have been trying to simplify the original three pages of terminological guidance, but I suspect we are all beginning to lose the will to live by now, so I won't dwell on further consideration of other morphological features such as the nature of the **umbilicus, radius** or the **septae**.

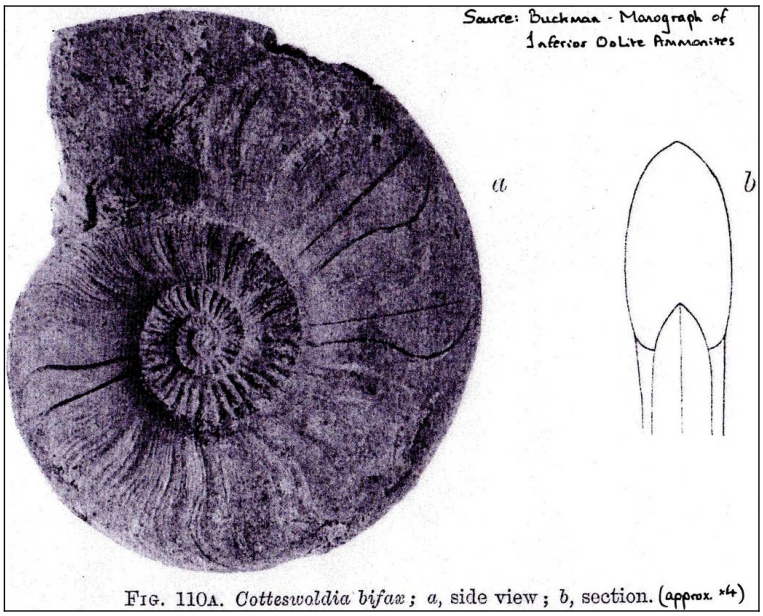

Fig. 5: The ammonite 'Cotteswoldia' taken from Buckman's 'Monograph of Inferior Oolite Ammonites', 1887 - 1907

What we finally arrive at are such helpful descriptions as this for the genus *Cotteswoldia*, (Fig. 5): **'subplatyleptogyral, sublatumbilicate, subpauciseptate, brevilatilobate, laterally subrectiradiate, peripherally anguliradiate, fastigate, parcicarinate'**. Compare this with a related genus *Pleydellia* (Fig. 6): **'subplatyleptogyral, sublatumbilicate, subpauciseptate, brevisublatilobate, laterally subflexiradiate, peripherally anguliradiate, acutifastigate, carinate'**. Buckman notes that this genus has a more compressed form of whorls than *Cotteswoldia* 'though hardly enough to be called **perleptogyral**' and adds that the species *Pleydellia fluens* is **connati-parvicostate to obscuricostate**.

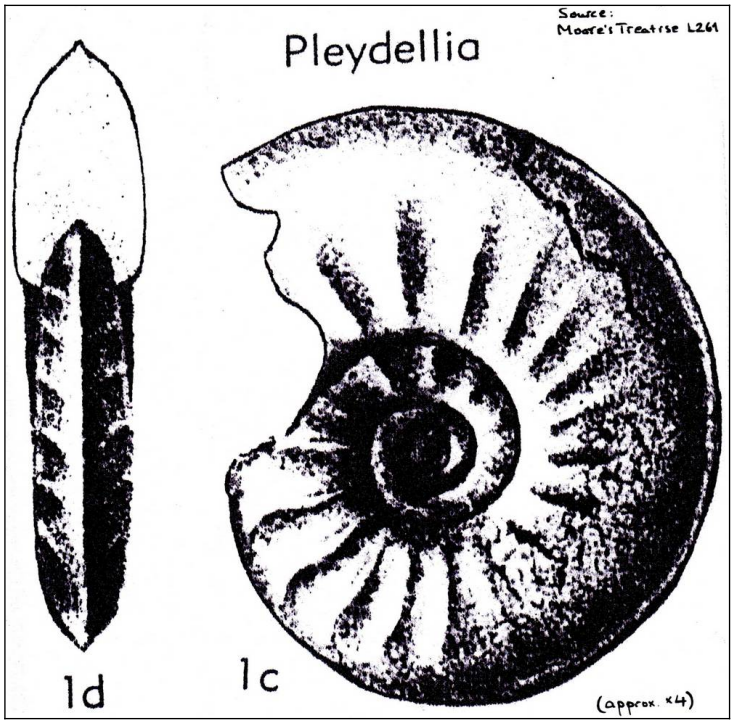

Fig. 6: The ammonite 'Pleydellia' taken from Moore's Treatise of Invertebrate Palaeontology (Part L: Mollusca 4, Ammonoidea) publisher: Geological Society of America (1957)

I imagine we can all understand why this approach never really caught on, even in learned circles.

In conclusion, I fully accept the need for careful and expressive language (jargon) to deal with the many complexities of any technical subject, but there is also a time and place for well constructed 'plain English' to be used, even if this results in some degree of simplification, when addressing less informed audiences. ■

Mike Allen

Reference:

1. Hutton, J. 'Theory of the Earth' Vol. 1, Plate III, Jedburgh Unconformity.