

If you have any SMLC-related news or stories that you would like to share in SMaLtalk, please get in touch by email at smlcnewsletter@gmail.com or by leaving me a note on the clubroom members board or by post to SMLC, 20 Maritime Lane, Leith, EH6 6RZ. Editor: Wendy Morley

CHAIRMAN'S REMARKS by Ian Marshall

It is very pleasing to see that about a third of all recent trainees have become regular Members and we all hope that they are enjoying all the benefits of being part of "THE" Lapidary Club. Whilst attendance at some of the openings has been dropping off, the fortnightly Saturday sessions seem to have become increasingly popular - the only difficulty being to acquire a seat around the tables at lunchtime!

The field trips to Moonzie, Easter Kinsleith, Pittachope and Drumnod / Luthrie Bank attracted good numbers on very pleasant days - mild, even sunny, with little wind - the 'finds' varying according to experience, eyesight, technique, patience, time spent relaxing, etc. Gareth Carnie has indicated his intention to retire from duty as Excursion Convener after 7 years of arranging trips- and the numerous days spent by both Gareth and Frances, checking out the farms with accessible ploughed fields and gaining permission from the farmers, has been much appreciated. A good job very well done!

In February, the illustrated talk "Pennine Perambulations" covering the 50th Anniversary of the Pennine Way plus Peak District 'Blue John' mines, was presented by the Chairman, followed in March by "Salisbury Crags" when Prof. Godfrey Fitton described the geology & Richard Gillanders the social history under the heading 'Quarries, Minerals and Doctors' ... very informative & entertaining! The annual Heddle lecture was this year given by Prof. Godfrey Fitton, an interesting review of silicate minerals.

Future club events to look forward to are: Our next Training Course 6th, 8th and 9th July; and a Display in Moffat as part of the World Gold Panning Championships from Saturday 5th until Saturday 12th August.

Please come along to give your support and promote the Club at these events.

CLUBROOM TALKS 2017

Talk 1: Ian Marshall PENNINE PERAMBULATIONS

Classed as "the toughest and wildest long distance walk in England", the Pennine Way celebrated 50 years of free access last year. Back in the 70s, Ian first walked it from North to South in pretty wet conditions, finishing by navigating over Kinder Scout in low cloud through the maze of peat hags and groughs (deep winding channels). A few years later with some running friends, he walked from South to North in very hot conditions where the knee-deep peat bogs were baked dry and very dusty.

The talk described the changing geology, starting with the Blue John fluorspar / lead mining locations around Castleton in the Peak District, where mineral seams of fluorspar and calcite, stalactites / snottites, stalagmites and crinoid beds may be seen. Highlights include:

- Speedwell Cavern (500m by underground canal);
- Blue John Cavern (300+ steps down);
- Treak Cliff Cavern, as described in Rock & Gem August 2016 (two specimens from the new seam donated to the Club by Mark Ridley are now in the Mineral Collection);
- Winnats Pass (a former limestone reef from the Carboniferous Period).

From Edale, crossing the peat moors of Derbyshire leads to the Millstone Grit of Yorkshire, with sculpted stones on the hills, and picturesque mill towns in the valleys.

The route crossed the M62 by footbridge and followed old Roman roads and pack trails through a mixture of gates and styles, crossing dykes of varied design as the local rock changed.

The Stoodley Pike monument built in 1815 celebrated Napoleon's abdication.



The Pennine Way route, from the National Trails website, where more information on the path is available:

http://www.nationaltrail.c o.uk/pennine-way



Mark Ridley with SM&LC leaflets - finder of the 'Ridley Vein' of Blue John from Treak Cliff Cavern. Reservoirs feed the larger industrial cities to the East and West and the rushes, sedges, crowberry and heather of the bleak grouse moor of Bronte Country are replaced by hedgerows of dog rose and tufted vetch in the open vales where sheep graze and tractors turn the hay.

Malham Cove, now a vast amphitheatre, was England's equivalent of Niagara Falls. The surface limestone pavement of clints (blocks) and grykes (cracks) was formed by erosion (carbonic acid in rainwater), and the water from Malham Tarn that formed the Cove now disappears underground, creating cave systems like Gaping Gill to delight the potholers.

Once over Pen-Y-Ghent, the moors drop down to rich wildflower meadows beside the River Tees where the water drops over the Whin Sill at High Force, England's largest fall.

Taking a detour east to Frosterley allows viewing of large blocks of the characteristic 'marble' (coral limestone) found there, whilst the route west (passing Cow Green Dam and reservoir - completed 1971) drops down to Dufton.

Back up the escarpment, the dolerite sill has been deeply eroded by glaciation to form High Cup Nick and the highest point on the Way at 2900ft (893m) is reached on Cross Fell.

Easier walking over open country leads to Hadrian's Wall, also built on the Whin Sill by the Romans (AD 122), then through the Keilder Forest by forest tracks to the small town of Bellingham. Memorials to the Boxer Rebellion in China (1900) and Boer War (1900 - 02) are other historic features before the final 28 miles over the Cheviot Hills to finish at Kirk Yetholm (267 miles).

VISITING THE NORTH PENNINES Wendy Morley

A visit to the North Pennines is indeed very interesting - basing a holiday in Teesdale, we enjoyed the walking, and incorporated a rummage through several spoil heaps from the lead mining era. The Cow Green Geological Trail crosses the Pennine Way, and takes in old mine workings (with spoil heaps yielding galena), sugar limestone (actually a weathered marble). the Whin Sill (dolerite). impressive and waterfalls beside the trail.

http://www.nationaltrail.co.uk/sites/defau lt/files/cow_green_geological_trail_2.pdf



Walks to the NE saw lime kilns, & more old lead mines, where the spoil heaps contained fluorite crystals.

Hannah's Meadow Nature Reserve was farmed by Hannah Hauxwell using traditional methods. It is now a site of special scientific interest for its flowers, and wildlife – we saw orchids, lapwings and curlew.

On a rainy day we visited the Bowes Museum in Barnard Castle. A highlight was viewing their beautifully crafted musical automaton – The Silver Swan which they activate once a day. Created in 1773, this life-sized swan (made of multiple silver plates), is controlled by three clockwork mechanisms which make the swan twist its neck as if preening, and bend forward to pick up a silver fish.

http://thebowesmuseum.org.uk/Collectio ns/Explore-The-Collection/The-Silver-Swan

Another automaton is a mouse made from gold, pearls, and enamel – exquisite in its detail, created in 1818, it is able to run around and twitch its whiskers! Although clearly in a different league, I was inspired to get back to learning more about silverworking at the club.

Having previously admired the pillars made of polished Frosterley Marble in Durham Cathedral, we walked near the disused Harehope Quarry to see it in situ. In fact it is a layer of limestone containing fossils of Dibunophyllum bipartitum, rather than a true marble. The village of Frosterley has a feature pavement made of polished slabs.

http://northpennines.wpsites.durham.gov.uk/wpcontent/uploads/sites/37/2016/11/Froster ley-Marble.pdf



Talk 2: Godfrey Fitton and Richard GillandersSALISBURY CRAGS: GEOLOGICAL AND RECENT HISTORY



Godfrey described the geology of the area, placing it in a local & global context.

Salisbury Crags are geologically sill a formed from hard dolerite above soft sandstone. \rightarrow In 1785 James Hutton (1726–1797) presented his Theory of the Earth to the Royal Society of Edinburgh, arguing that these rocks formed by different processes, rather than at the same time. \rightarrow He founded the



'plutonist' school in opposition to prevailing 'neptunist' dogma proposed by Abraham Gottlob Werner (1749–1817) who suggested that all rocks (including igneous rocks) formed through precipitation from seawater that initially covered the Earth.



 \leftarrow Columnar basalt (known as Samson's Ribs) is dramatic, and is similar to those seen at Staffa.

Editor: an informative leaflet is available:

http://www.snh.org.uk/pdfs/pu blications/geology/EdinWestL othian.pdf

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Richard then explained the social history.

The Crags have been quarried since the 16th Century. In 1540, James V enclosed Holyrood Park with a wall using stone from the Crags.

The Crags supplied 'causey stanes' [cobbles or setts] for paving the streets of Edinburgh, and building stone (below).

Subsequently the stone was used to pave the streets of London.





By the middle of the 18th Century, quarrying had become a money making concern. The Road Trustees of Turnpike Roads of Midlothian had quarried since the reign of Queen Anne and the Road Trustees of the Middle District since 1759.

In the early 19th Century, quarrying of the Crags became intensive as output rose to meet the increased demand. Quarry faces were beginning to recede back into the Crags at an alarming rate, so measures were taken to protect the area. Since the House of Lords judgement in 1831, no quarrying operations have taken place. As W. Forbes Gray wrote a hundred years later: 'Salisbury Crags will bear the marks of insensate folly for all time'.

Minerals have been found including Prehnite, Humboldite, Wollastonite, analcimes, barite, and calcite.



The medical community were keen on climbing the crags, including Joseph Lister, later Lord Lister, who was to become the pioneer of antiseptic surgery. The Cat's Nick (below) was a popular climb. Climbing is now forbidden.

The park is currently used recreationally, with a multitude of paths allowing viewing of the fine geological features.



Talk 3: Heddle Lecture by Godfrey Fitton. SILICATE MINERALS

- The most abundant minerals in the Earth's crust are *silicates* of Al, Fe, Ca, BACKGROUND Mg, Na & K
 - Silicates make up 30% of mineral species, and 90% of the Earth's crust.
 - Silicates are based on $[SiO_4]^4$ units, which are tetrahedra, & their appearance varies greatly depending on how they combine with other elements. These can *polymerise* to produce a large range of silicate structures



MEMBERS' NEWS

Jean Stephen 1922 – 2017. Remembered by G L Beattie.

Families, friends, colleagues and all who knew her were saddened to hear that Jean passed away peacefully in her sleep at the Erskine Home, Gilmerton on 6 January 2017. Jean was a regular for many years at our club's Wednesday daytime sessions, arriving early and cheerfully in all weathers. Although her physical strength failed somewhat in her last few months, she was mentally as sharp as someone half her age.

I was lucky enough to meet Jean many years ago at the News Steps premises of our club. She was a pleasant and friendly lady who could talk about and discuss an amazing range of subjects - she had a huge fund of general knowledge. She had been a WREN during the war and as I was an ex National Serviceman we had a long and interesting chat about "Navy" life. She was very modest when talking about her wartime service and only when directly questioned would she recall and talk about some of her experiences: e.g. listening to voices from German U-boats off the English east coast (she had a degree in); tracking the sound of U-boats moving along our coasts during the final U-boat campaign of the war; being posted as a petty officer to Hamburg with the Allied Naval Occupational Forces in 1945.



Our friendship continued over the years in this club and also in stamp and post card clubs. Among her many interests are (listed in no particular order): gardening, lapidary, books, history, poetry, Scotland, current events, philately, postcards, Nelson, general knowledge quizzes, and crosswords.

John Studholm took this great photograph of Jean on her 90th birthday at the club. It typifies her happy and cheerful outlook on life.

My granddaughter Ellis was required to write an article on "Women in society" as part of her journalism honours dissertation and asked if Jean would agree to participate. Jean of course agreed. Ellis later commented "She would always have a smile and a cup of tea ready when I visited her, and we became good friends. Despite the age gap we shared many interests including books and poetry. She was a wise a wonderful woman and even in the very short time I knew her she was a person I greatly admired."

Everyone was delighted when informed that Jean, just weeks before she died, had been awarded a gold badge and a certificate signed by the Prime Minister Theresa May thanking her for her vital war service. Jean's name is been added to the role of honour at the Bletchley Park Trust.

Jean will be sorely missed but never forgotten.

G L Beattie.

SCOTTISH AGATES Book Review



"Scottish Agates" by Nick Crawford & David Anderson is available in the club library.

It provides an interesting summary of agates, covering their formation, where to collect, preparation, and display.

The highlight is the beautiful photographs of amazing agate specimens.

David Anderson maintains an excellent website describing Scottish Agates by area, with examples of beautiful agates found over many years, I highly recommend a look:

http://www.agatesofscotland.co.uk/

VISITORS TO THE CLUB by Ray Smith

Ray Smith has been corresponding (& swapping agates) with Kymberley Andrews and Rolf Zschoernig, who both visited our Club They last year. recently put on a display of Scottish agates their at Roseville Rock and Gem show which well received was (by the 3000 attendees!).



Ray also forwarded a copy of Nick Crawford and David Anderson's book on Scottish Agates, which you can see on display.

$MINERAL\ WATCH\ by\ Wendy\ Morley$

Here are further recommendations of interesting media shows. I have noted where they were first shown to assist you when searching for them.

- Radio: "Life Scientific Triassic" BBC Radio 4. An interview with Nick Fraser, who is the head of the National Museum of Scotland's Department of Natural Sciences and specialises in vertebrate palaeontology. <u>http://www.bbc.co.uk/programmes/b08lh5yp</u> This weblink has more information about his work, and two Scottish research projects that he is participating in: <u>http://www.nms.ac.uk/collections-research/collections-departments/naturalsciences/dr-nick-fraser/</u>
- **TV: "Gem Hunt**" Travel Channel. This series shows three gem hunters travelling across the world to visit mines and markets, looking for precious stones. A fast-paced insight into the realities of the gem market, including corruption, challenging negotiations, and difficult mining conditions. http://www.travelchannel.co.uk/shows/gem-hunt
- **TV: "Into the Inferno**" Netflix. Renowned film-maker Werner Herzog explores active volcanoes (in Indonesia, Iceland, Ethiopia & North Korea), and the communities living around them. His inspiration and guide is Clive Oppenheimer (Professor of volcanology at the University of Cambridge). Watch the trailer here: https://www.netflix.com/gb/title/80066073



- **Radio: "In Their Element"** Radio 4 (BBC iPlayer radio). Scientists tell the stories of different elements, explaining why these well known substances matter for chemistry and also for the development of modern civilisation. http://www.bbc.co.uk/programmes/b08p6q4r/episodes/player
- **TV: "The Day the Dinosaur Died"** BBC iPlayer. This programme investigates the sudden disappearance of the dinosaurs 66 million years ago. Evolutionary biologist Ben Garrod joins a team drilling in the Gulf of Mexico looking for evidence of the asteroid strike, whilst paloepathologist Alice Roberts visits fossil beds in Patagonia and New Jersey. http://www.bbc.co.uk/programmes/b08r3xhf



TRAINING

Thanks again to the members leading the training courses.

In April, we had Adrian Hendry (left) from London, and Stuart Cosh (right) - a former junior member at St Giles Street now intending to return to the fold!



CLUBROOM DISPLAYS



Ian Marshall leads the creation of visual displays in the clubroom museum, showcasing specimens from our collection.

Many thanks for the hard work that goes into creating such interesting displays. It takes many hours to arrange and label.

Earlier this year the display focused on Lithium, Sodium, Potassium, and Copper, including Copper Suplhates, Hydroxides and Carbonates.

The chemical compositions were shown, which added another layer of interest.

The specimens were vibrant, and overall the display was a success.

