



**THE
GEOLOGICAL
SOCIETY OF
GLASGOW**

PROCEEDINGS

**Session 16
October 2022 to September 2023**



Checking out the lava flows in Campsie Glen. Members of the Strathclyde Geoconservation Group researching a new guide.

Registered Scottish Charity No. SC007013

President: Dr Simon Cuthbert

www.geologyglasgow.org.uk

Hon. Secretary: David Webster email: sec@gsocg.org

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Council Members Session 165

Elected Officers

At the AGM on December 8th 2022 the following were elected to Council:

Position	Nominee	Proposed by	Seconded by
Secretary	David Webster	S Cuthbert	I Millar
Librarian/Publications	Gary Hoare	R Bryce	I Millar
Proceedings Editor	David Webster	W Semple	C Forrest
Newsletter Editor	David Webster	W Semple	C Forrest
Residential Excursions	Roy Bryce	S Cuthbert	D Webster
Webmaster	Bill Gray	S Cuthbert	R Bryce
Ordinary Member	John Guerrier	S Cuthbert	W Gray
Ordinary Member	Bobby Alexander	I Millar	N Clark
Ordinary Member	Maggie Donnelly	I Veitch	M Anderson
Ordinary Member	Walter Semple	R Bryce	N Clark
Ordinary Member	Lindsay Smith	D Webster	W Semple
Honorary Archivist	Margaret Anderson	W Semple	S Cuthbert
Junior Representative	Vacant		
Editor of SJG	Colin Braithwaite	B Bell	M Cummings
Independent Examiner	Brian O'Neill	I Veitch	W Semple

Continuing Officers

The following continued in post:

Simon Cuthbert - President

Neil Clark - Vice President

Brian Bell - Vice President

Ian Veitch - Treasurer

Ian Millar - Meetings Secretary

Roy Bryce - Day Excursions Secretary

Margaret Greene - Chair Strathclyde Geoconservation Group

President's Report

In the proposed new constitution of the Society its stated purposes include "... the advancement of the community of individuals and organisations concerned with geology and its allied sciences..." Following the end of the pandemic the Society has made excellent progress in restoring and extending its activities to fulfil these purposes.

The core of the Society is its members. To make management of subscriptions, payments and data handling simpler and more convenient we have established a digital membership system, WebCollect. The transition from the old system has involved a great deal of effort by Council, especially the Membership Secretary, Campbell Forrest, the Treasurer, Iain Veitch and the Meetings Secretary, Ian Miller. The move to the new system has gone fairly smoothly but, in the nature of such things, problems will arise, so we crave members' patience and tolerance as it beds in. Hopefully, we will continue to cater fairly for those who don't wish to use digital systems. Members who encounter problems should contact the Membership Secretary and we will do our best to resolve them.



The Society's flagship activities have, for over 150 years, been its evening lectures and summer field excursions. In the 2022-2023 session we have maintained a fascinating and diverse lecture programme. We've used on-line presentation technology so that speakers can present remotely on-line to an audience in the hall. This potentially gives us a wider choice of speakers and makes it more convenient for those who may otherwise have to travel a long way. I'm grateful for all that stressful work done behind the scenes to make the meetings run smoothly, especially by Ian Miller and David Webster. The same technology enables members and a large audience from the wider public to view the lectures on-line and permits Council members to join meetings remotely. Encouragingly, the numbers of lecture attendees online far outstrips our membership, often viewing from far-flung parts of the world, so it's good to see that we can achieve such a reach. I know that some members are unable or prefer not to attend evening meetings in person and we recognise that on-line presentations are an essential means for them to engage with the Society's activities. The technology sometimes fails, but Council members are working hard to resolve the problems. For those who crave the social element of face-to-face meetings we encourage you to join us in person; to that end we are striving to recover a social space for a chat and a cuppa after the lecture. If you have friends or family who might be interested in the meetings, please bring them along; they don't have to be members, but we hope they'll join!

A recent addition to the Society's indoor activities is the GeoNatter events in Kelvin Hall on Wednesday lunchtimes. This has proved very popular and has attracted members who perhaps find the more technical and formal nature of the evening lectures a little intimidating. We're grateful to Vice President Neil Clark and the Hunterian for hosting

these events and providing the resources for some fascinating activities.

The summer field trips continue to attract healthy participation, including some new and prospective members. This has been in spite of increased travel costs and limited accommodation in Scotland's overcrowded tourist hot-spots. We are very grateful to Roy Bryce, who took on both residential and day-trips in the last session, but who is now standing down after many years keeping up a great choice of excursions. We also thank the trip leaders who give up their time to run trips for us. If you know an area well and would be interested to offer a trip for the Society we'd be delighted to hear from you. Our "outdoor" outreach activities have once again included open days at Fossil grove, which have attracted hundreds of visitors, encouragingly including many youngsters and their families. Thanks go to Hon. Secretary David Webster, members of the Strathclyde Geoconservation Group (SGG) and all others who have made these events such a success in reaching out to the Glasgow public. David's commitment and persistence, aided by his colleagues in the Fossil Grove Trust and Historic Environment Scotland, continues to drive progress to restore Fossil Grove to its former glory and make it once again the jewel in the crown of Glasgow geology.

The Society encourages "do-it-yourself" geological field activities through printed and on-line guides. The SGG has been running a series of visits to evaluate local sites, which are gradually being written up. This is yet another way in which the Society is widening its influence in promoting geology in the Glasgow area and beyond. The SGG's core purpose is the protection and promotion of geo-sites and they continue to engage in the planning process when conservation issues arise. The SGG has widened its geographical scope recently by merging with the Argyll and the Islands Geoconservation Group. Anyone who wishes to help SGG and its allied groups will be very welcome to join in. Thanks to Margaret Greene and her team for their great work.

Our website, digital newsletter and social media platforms are well established as the essential means of communication with members and the wider world and are providing useful resources for those getting started in geology. In the background, web resources have largely replaced paper documents about administrative matters, making access to information easier for Council members. David Webster, Neil Clark and Bill Gray put a great deal of work into the upkeep of these resources. Bill has said, generously, that he will remain our web master once again next session, well after he aimed to step down! We will, though, need a new website officer soon, so if you have the skills to take on this essential role and would like to help, please let us know!

The Society's finances remain strong with a healthy surplus. This is partly because our two prestigious awards, the T Neville George Medal and the Brian Bluck Prize have not been awarded over the pandemic period. They will be reactivated next session. Meantime we have made grants available for research by university students, continuing the long-standing role of the Society in supporting fundamental geological research. Members will be able to see presentations by awardees in the next lecture session. Our large surplus is, arguably, under-used and Council will explore how our resources might be better deployed to meet the Society's purposes in future. Treasurer Iain Veitch is thanked for ably managing our finances and for presenting this year's

accounts in a more digestible format.

There have been important developments with the Scottish Journal of Geology, which is jointly owned with the Edinburgh Geological Society. After many years as Chief Editor, Colin Braithwaite has stepped down and the Journal Board Secretary, Heather Stewart, has stepped into his formidable shoes. We thank Colin for his many years of service to the Journal and both societies, having seen it through several key changes and a difficult publishing environment. The owners have recently signed a new agreement with the Geological Society of London Publishing House, the Journal is now fully on-line and we are setting up a hard-copy service for members still wishing to have articles on paper. Submissions are showing signs of increasing, so we hope for a healthy future for this national-level peer-reviewed research journal. Walter Semple has made a key contribution to drawing up the new Agreement along with our colleagues in Edinburgh.

As for other published material, the main physical resource of the Society is our Library, still housed with the blessing of the School of Archaeology in Glasgow University's Molema Building. Members of Council, including Bobby Alexander, Lindsey Smith and Ian Miller and led by Gary Hoare have worked hard to catalogue the collection. We are aware that the Library is not easily accessible to members and are still exploring ways to correct this. Thanks especially to Gary for his prodigious energy in maintaining our printed resources.

The Society's Constitution has had a long overdue overhaul this session and this will be presented to members at a Special General Meeting on the same evening as the AGM. It aims to modernise our procedures for working in the contemporary digital world, brings procedures into line with current practice for Scottish Charities (OSCR) and simplifies the structure, membership and election procedures for Council. This has been a huge, complex piece of work led by Walter Semple, but aided particularly by Iain Veitch, Bobby Alexander, Campbell Forrest and Ian Miller, all of whom are thanked for their effort and attention to detail. The draft has been sent out for scrutiny by the membership and we are grateful to those who contributed feedback. Walter now retires from Council after serving as Hon Secretary and making leading contributions to the Constitution and SJG publisher's Agreement, in addition to his great work for Fossil Grove. He is a true force of nature and we all have much to thank him for. Also retiring from Council is Brian Bell who has served as President and as a Vice President and I thank him for all he has done for the Society.

Administrative matters have tended to dominate the work of the Society's Council in the last session. Changes to the way Council members work together have hopefully enabled an inclusive and sociable environment, so anyone wishing to join Council should find it a welcoming and enjoyable experience. It's been a pleasure and an honour to work with such an energetic, imaginative and committed crew. The geological sciences worldwide are facing severe challenges these days, but thanks to my colleagues on the Society Council, our splendid membership and our allied geo-charities, "the community of individuals and organisations concerned with geology" in the public domain in Glasgow and across Scotland looks to be in sound health.

Simon Cuthbert

Treasurer's Report

Financial results

The financial results are as set out in the attached financial statements.

The unrestricted funds, which represent the day to day running of the society, show a surplus of income over expenditure of £6,270 largely because we no longer pay for room hire.

The Designated Fund which is allocated to pay grants and awards generated income of £3,307 of which £1,688 was paid out in the year. At the end of the year the balances on this fund total £61,745.

Investment policy

Investments are held under the title of Designated Fund and are in the care of our broker Redmayne Bentley. The Council has adopted the following investment policy:

“To invest the funds in investment trusts or comparable funds of the highest quality which would expect to provide yields or income returns representing a reasonable return on such investments and at the same time capital growth intended to maintain the real value of each fund. These investment trusts or funds would provide a wide diversification of investments and a satisfactory history of successful past performance.”

An Investment Committee, appointed by the Council meets annually or as required to review the investment performance and if necessary, make changes.

Reserves Policy

The trustees' have adopted what is considered to be a prudent policy of maintaining cash reserves of at least two years' running costs. With unrestricted reserves of £36,747 at the year end and running costs of £2,387 the society is operating well within this policy.

Independent Examiner

Mr Brian O'Neill has been appointed as Independent Examiner to the charity for this year.

Notes to the accounts

1 Basis of Accounting

These accounts have been prepared on the Receipts and Payments basis in accordance with the Charities & Trustees Investment (Scotland) Act 2005 and the Charities Accounts (Scotland) Regulations 2006 (as amended)

2 Nature and purpose of funds

Unrestricted funds are those that may be used at the discretion of the trustees in furtherance of the objects of the charity.

Designated funds are those that have been allocated by the trustees for a specific purpose, in this case the making of grants and awards.

Restricted funds may only be used for specific purposes. Restrictions arise when specified by the donor or when fund are raised for a specific purpose. The restricted funds are: The T N George Fund - to be used to engrave a medal for the annual T N George lecture, The Brian Bluck Fund - to be used to award a prize to the top student in the final year of Geology at Glasgow University and the The Fossil Grove Trust Fund - to be used for expenditure on the Fossil Grove on request from the Fossil Grove Trustees

3 Related party transactions

The Society's insurance policy includes Trustee Indemnity Insurance for all council members. No remuneration was paid to the trustees during the year (2022: nil)

4 Grants and Awards

Designated Funds	
Ella David - Grant	1,000
Scottish Geology Trust	500
Strathclyde Geoconservation	250
Friends of Hugh Miller annual donation	50
Income from sale of the new Gigha Guide	-112
Total Designated Funds	1,688
Restricted Funds	
Fossil Grove Trust	16,799
Total Grant and Awards	18,487

5 Expenditure

Expenditure was similar to the previous session. Glasgow University now generously allows us to use a lecture room free of charge our income continues to comfortably exceed expenditure. The stock of books for sale was checked and a number of items that were unsaleable or missing have been written off in the year

6 Restricted Funds

	T N George Fund	Brian Bluck Fund	Fossil Grove Trust fund	Total
Movement on the Funds:	£	£	£	£
Balance at 1 October 2022	340	7,500	27,301	35,141
Income	0	0	965	965
Grants & Awards	0	0	-16,799	-16,799
Balance at 30/9/2023	340	7,500	11,467	19,307

Notes

The T N George Medal was not awarded this year.

The Brian Bluck Prize has not yet been awarded for 2023

Fossil Grove Fund expenditure is authorised by the Fossil Grove Trustees

7 Payments Due at the year end

Independent Examiner's Fee £150

8 Investments

The investments in the Designated Fund increased in value by £699 and are now valued at £52,327.

The Designated Fund is invested in 4 managed funds which generate income to be used for making grants and awards.

Ian Veitch

THE GEOLOGICAL SOCIETY OF GLASGOW						
Income and Expenditure Account for year ending 30th September 2023						
	Note	Unrestricted Funds	Designated Funds	Restricted Funds	Total	Year Ended 30/9/22
Income						
Subscription Income		7,123		0	7,123	7,238
Investment Income		300	3,307	0	3,607	3,192
Gift Aid		1,058		0	1,058	1,127
Publication Sales		326		0	326	256
Donations & Grants Received		0		965	965	42,565
Miscellaneous Income		0		0	0	0
Total income		8,807	3,307	965	13,079	54,378
Expenditure						
Cost of Charitable Activities:						
Lectures	5	1,245		0	1,245	1,016
Printing & Postage		658		0	658	845
Insurance & Fees		303		0	303	294
Website	5	175		0	175	161
Book write off		0		0	0	422
Grants and Awards	4	0	1,688	16,799	18,487	23,172
Miscellaneous		6		0	6	686
Total Charitable Activities		2,387	1,688	16,799	20,874	26,596
Governance Costs						
Independent Examiner Fees		150	0	0	150	150
Total expenditure		2,537	1,688	16,799	21,024	26,746
Gain (Loss) on Investments		0	699	0	699	-4,414
Surplus (Deficit) for the year		6,270	2,318	-15,834	-7,246	23,218

THE GEOLOGICAL SOCIETY OF GLASGOW

Statement of Balances at 30 September 2023

	Note	Unrestricted Funds	Designated Funds	Restricted Funds	Year Ended 30/9/23	Year Ended 30/9/22
Funds Balance as at 1st October 2022		30,477	59,427	35,141	125,045	101,827
Surplus (deficit) for the year		6,270	2,318	-15,834	-7,246	23,218
Funds at 30 September 2023		36,747	61,745	19,307	117,799	125,045
Represented by:						
Bank and Cash Deposits						
Royal Bank of Scotland		16,818		19,307	36,125	46,960
National Savings Income Bond		12,000			12,000	12,000
National Savings Investment Account		4,892			4,892	4,592
Investments		0	52,327		52,327	51,628
On deposit with Redmayne Bentley		1,687	9,418		11,105	7,799
Cash in Hand (float)		300			300	100
Total Cash and Savings		35,697	61,745	19,307	116,749	123,079
Stock of Publications		2,712			2,712	3,041
Less Liabilities:						
Subscriptions paid in advance		-1,512			-1,512	-243
Payments Due	7	-150			-150	-832
Net Assets		36,747	61,745	19,307	117,799	125,045

Membership Secretary's Report

	Session 165	Session 164
	Ended 30 Sep 2023	Ended 30 Sep 2022
Honorary Members	3	2
Ordinary Members	186	236
Associate Members	92	86
Junior Members	11	21
Institute Members	3	3
TOTAL MEMBERS	295*	348

[*Note the figures for Session 165 are not complete - see report below]

A major project has been underway since summer 2023, to convert the society's membership management system to an online version (WebCollect), allowing members to manage much of their own data. New members can join and pay online, ideally by direct debit, and input and amend their own personal details. The frequent task of emailing members with news etc is greatly simplified, as is the financial management of the society.

The transition to the WebCollect system is still being managed, and information is in a state of flux, with some members deciding not to renew and some still to pay the subscription. At mid-November subscriptions for c.290 members have been received.

Over the past decade, the number of members without recorded email addresses has fallen from around 120 to just 23. This allows much more timely and frequent communication with the vast majority of members. The Society remains committed, however, to continue to keep in touch with those members who do not have, or have not advised, email addresses, as far as is reasonably practical. These are long-standing members, the most recent having joined some 22 years ago.

Campbell Forrest

Meetings Secretary Report

Coming out of the long shadow of the Covid pandemic and with the possibility of a bad flu season it was with some trepidation that the lecture series began as a return to our usual in person talks, although the first two in the series were delivered as live zoom events to the lecture theatre.

Following on from the success of Zoom events during the pandemic lock downs we were very keen to continue its delivery to those members unable to attend in person and to fellow geological enthusiasts. It is fair to say we had some mixed results in that regard with some technical problems which eventually led to us abandoning it in the second half of the programme. Work has continued during the summer to try and overcome the issues we had and going into session 166 we will attempt to record the lectures for later consumption by members at a time of their own choosing.

The programme began with an audience of about 20 but increased with 45 attendees for the final lecture. These numbers were well down on the pre covid average of about 65 but very understandable given the previous two years. When a lecture recording was posted viewing figures were generally in triple digits peaking around 650.

We had a varied programme which was well received.

The Lecture programme was as follows

Thursday 13th October 2022

Dr Rebecca Paisley, Exploration Geochemist, Cornish Lithium.

“Lithium in Cornwall: The foundation for a responsible UK battery supply chain ”

This was a live zoom lecture delivered to an audience in a lecture theatre and online.

Dr Paisley who specialises in using geochemical data to constrain sub-surfaces processes in a variety of geological environments spoke on her work to assist with developing the geochemical side of Cornish Lithium’s exploration efforts, especially geothermal waters sampling strategies for their drill programs and the technologies to exploit those fluids.



Thursday 10th November 2022

Megan Jacobs, PhD Research student, University of Portsmouth.

“Walking by Giants : Dinosaurs from the Isle of Wight”

This was the second zoom lecture which as with the previous one was delivered to an audience in a lecture theatre and online.

The Early Cretaceous (Barremian) Wessex Formation, of the Isle of Wight, UK, is one

of the best places in Europe to find dinosaurs. This island is full of brightly coloured sandstones and floodplain clays that regularly yield fossil remains ranging from fish and crocodiles to huge dinosaurs and giant pterosaurs. Megan took us back in time to the Wessex Formation and its ancient floodplains and forests. We learned about the geology, meandering rivers, complex soils, and the high diversity of animals from insects to pterosaurs, as well as what we have even recently learned from dinosaur stomach stones



Thursday 8th December 2022

Professor Quentin Crowley, Trinity College, Dublin

“Integrating geology into Ireland’s radon map”



Radon is the main source of ionising radiation affecting the general population. Geology is the primary controlling factor for soil gas radon, which in turn influences indoor radon concentrations. Globally, exposure to indoor radon is the second highest cause of lung cancer after tobacco smoking. Integrating geogenic data into radon maps helps to improve our understanding of where radon is sourced and how it travels through the sub-surface. Integrating geology also helps to improve spatial resolution of radon maps and reduce uncertainties of predicted anomalies. The talk explored how geology was used to refine Ireland’s radon map, as

part of a national strategy to help to lower the radon-related lung cancer incidence.

Thursday 12th January 2023

Professor Mark Williams, University of Leicester.

“The Anthropocene: a planetary scale change to the biosphere, and the future well-being of planet Earth”

Over the past ten millennia humans have halved the mass of the biosphere, concentrated most of the mass of terrestrial mammals in themselves and the animals that feed them, and in their billions of individuals now account for most of the numerical abundance of primates. Of itself, this indicates a level of domination that

is exceptional for a single large species in the history of the biosphere. To that we must add the systematic reconfiguration of ecosystems globally and the 1000s of non-native species that have been translocated therein. Many of these changes have left a distinctive palaeontological signature in the sedimentary record, one likely to be recognisable in most regions and ecosystems of the world, and one which may help to define a new epoch of geological time, the Anthropocene.

If sustained, this change may denote a permanent state-shift in the structure of the biosphere. If it fails, it will likely be the result of excessive human consumption resulting in a mass extinction. Prof Williams discussed how palaeontology contributes to quantifying the degree of Anthropocene change, and how it might be used to influence our strategies towards a more sustainable relationship with nature.



Thursday 9th February 2023

Dr.Maarten Krabbendam, British Geological Survey, Edinburgh.

“A new stratigraphic framework for the early Neoproterozoic successions of Scotland”

Dr Krabbendam spoke on his work, interpretation and re evaluation of these strata which will be included in the upcoming 5th edition of The Geology of Scotland to be published in 2024.



The advent of modern dating techniques has, in recent decades, provided much better timing constraints on the deposition of Neoproterozoic sequences in Scotland, in Greenland and Svalbard. This has shown that the Neoproterozoic evolution of this north Atlantic province is dominated by three tectonic episodes: the Grenville-Sveconorwegian orogeny, the Renlandian orogeny and the rifting and formation of the Iapetus Ocean. In Greenland and Svalbard,

Neoproterozoic sedimentary rocks can be divided into three ‘megasequences’, constrained by the three major tectonic episodes. In northern Scotland, however, the classic subdivision of Torridonian and Moine is at odds with these megasequences: a new stratigraphic framework is thus necessary.

The oldest megasequence in Scotland is the newly named Wester Ross Supergroup, comprising the Iona, Sleat, Torridon and Morar groups of the Scottish mainland and Inner Hebrides, and the Westing, Sand Voe and Yell Sound groups in Shetland. These units were deposited c. 1000–950 Ma within a foreland basin to the Grenville Orogen.



The second megasequence is the newly named Loch Ness Supergroup consisting of the Glenfinnan, Loch Eil and Badenoch groups of the Scottish mainland. These units were deposited after the Renlandian orogeny between c. 900–870 Ma and record Knoydartian orogenesis c. 820–740 Ma.

The Dalradian Supergroup in the Grampian Highlands and Shetland belongs to megasequence 3; it was deposited c. ?800–480 Ma and records the opening of the Iapetus Ocean, ultimately leading to deposition of the passive margin Cambrian–Ordovician Ardvreck and Durness groups in the NW Highlands.

Thursday 9th March 2023

Professor Brian Upton, University of Edinburgh.

“The Gardar Rocks of Southern Greenland”

90 year old Prof Upton assisted by his son Michael braved a yellow snow alert to drive from Edinburgh to present his talk to the Society. This dedication to speak to us is perhaps no surprise from an arctic geology veteran.



Between 1.3 and 1.1 billion years ago, magma from the Earth’s mantle intruded into a continent during the assembly of the supercontinent called Nuna. Through good fortune, the dykes and central complexes that resulted have been preserved in near-pristine condition

in what is now the south of Greenland. The dykes are extraordinarily thick, and the central complexes contain an order of magnitude more exotic minerals than otherwise similar complexes around the world. Prof Upton described what he found during over 20 seasons of field work there and explains how extreme fractionation of the magma might be responsible for the one-of-a-kind central complexes.

Thursday 13th April 2023

Rachael Paul, Senior Geologist, ScotGold. **“The Cononish gold mine”**

Rachael who was selected as one of the top 100 Woman in Mining 2022, gave us an overview of the geology and mining cycle at Cononish Gold Mine in Tyndrum with Scotgold, including regional geology, surface exploration, underground diamond drilling, grade control modelling and mining methods.



A final word: Some comments from some of our speakers.

Quentin Crowley “Thank you to the Geological Society of Glasgow for the invitation to present some of my #radon research. It was great to meet everyone in person, and amazing to see such engagement on this important topic! It meant a lot to me to give a presentation at the University of Glasgow on radioactivity. The same university which once hosted Frederic Soddy, who was the first to prove that uranium decays to radium. In 1913, Soddy proposed that atoms can be chemically identical and yet have different atomic weights. He developed and proved his theory of isotopes, for which he was awarded the Nobel Prize for Chemistry in 1921.”

Mark Williams ‘it was a real pleasure; I knew Glasgow would be welcoming and friendly”

Maarten Krabbendam “I really enjoyed the evening”

Brian Upton “Thank you for the Society’s hospitality on Thursday.

Rachael Paul “everyone was very friendly and made me feel welcome.”

Thursday 11th May 2023

Members’ Night - Venue: Kelvinhall Lecture Theatre

Four members of the Society presented short talks.

Iain Allison – Oman

Simon Cuthbert – In search of Iapetus: Fieldwork in the northern Scandes

Ian Veitch & Campbell Forrest – MacDuff boulder bed

Ian Millar

Day Excursions 2023

Six day excursions were run in 2022 as follows:

27th May.	Seamill to Portencross. Austen Brown
17th June.	Kilbirnie Quarry. Austen Brown.
8th July.	Wanlockhead. Neil Clark.
22nd July.	Glencoe. Simon Cuthbert.
28th August.	Ballantrae. Con Gillen
2nd September	Balmaha. Iain Allison

Overall bookings were still lower than pre-Covid levels, and as bus prices increased dramatically a self-drive model was adopted with assistance offered to locate a driver for anyone unable to drive themselves. All reports and photos by Roy Bryce

Seamill to Portencross

Firstly a huge thank you to member Austen Brown who very kindly offered to lead this trip at short notice. Not only did Austen provide local knowledge of the area, but also a lovely gift of honeycomb from his own hives which was thoroughly appreciated by the six participants. We also welcomed new member Stephen Brown on his first field trip. Much discussion centred around what appeared to be an erratic even though it clearly wasn't. What it was we weren't able to decide on.



Mystery erratic?

Kilbirnie Quarry

Our leader was again Austen Brown but this time on the planned tour of his land and surrounding area. Fossil hunting started the day. Unusually for a GSG excursion, we had full permission for some exploratory hammering with the possibility of finding something previously undiscovered as this was virgin land.

And sure enough, there were plenty of interesting fossils to look at. With both Neil Clark and Gary Hoare in attendance, there was no need for bulky reference books to identify what had been unearthed.

A nearby rubble pile also provided scope to locate some more fossils and Austen very kindly offered JCB driving lessons as a bonus.

The rest of the day was thoroughly enjoyable with an illustration of how the geology in the area defined the best location for a hydroelectric scheme which the nine participants visited.



Wanlockhead

A change of pace for this trip as it started with a visit to the Wanlockhead Lead Mining museum and the newly extended adit of the attached lead mine. We then got our welly boots on and some of us braved the chilly waters to try our luck at Gold Panning. I suspect it was due to skill rather than luck, but the only one who found anything was our leader Neil Clark who has been panning since he was 14 years old. We welcomed two new society members on the trip, Kevin and Lesley Farrell along with eleven regulars. The day finished with a rummage through some spoil heaps looking for interesting minerals.



Glencoe

As we had a vast area to explore, we chose an early start at the Glencoe Ski Centre where both refreshing coffee and views are available. Our party of 14 including new member John McCarthy then drove down the glen and assembled at the start of the Glen Etive road made famous in the James Bond film “Skyfall” where our leader and society president Simon Cuthbert gave us the big picture explanation of the topology.



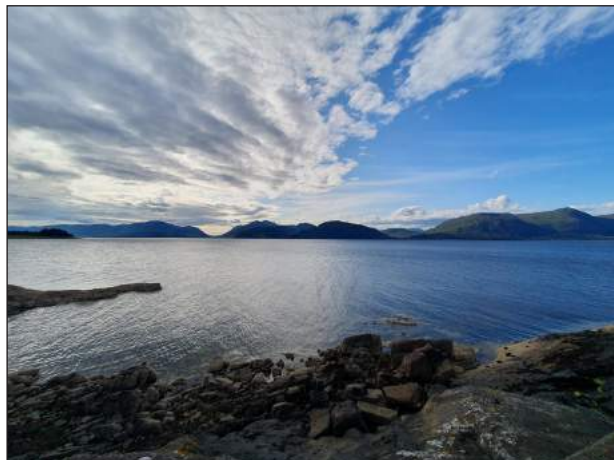
We offered lunch to the local midge population a little further down the road when we had a close look at the local rocks in an accessible gorge just off the road.



Then on the NTS visitor centre for a break then a few more miles down the road to Glenachulish for the main walk of the day to see more evidence of the ring structure. The advantage of not having a bus meant we could take our time and enjoy the walk, the weather and the geology.

We ended the day with a summary of all we had seen from Simon in the beautiful surroundings of the Holly Tree Hotel in Kentallen.

The view from
the Kentallen
Hotel



Ballantrae

Our leader for this trip was Dr Con Gillen who had taken us there five years ago. Since we did not have to worry about where to park the bus, we were able to vary the locations from those examined last time.



Pillow lavas

The starting point was no longer the precipitous climb down from the car park that brave souls – not me – descended on our last visit. We gave that a miss and drove down a long farm track down to Bennane Head to see the pillow lavas.

We were again blessed with clear skies meaning we could see all the way across to Ireland as well helping to pick out the amazing colours of the rocks including the red cherts.

Driving back up towards Girvan, we stopped off for a quick toilet break in the café in Ballantrae which was unfortunately too busy for us to stay for lunch. Instead

we parked at the old road leading to Port Vad and just had lunch on the beach. Con told us about an accountant who found paying tax to be so against his principles that he decamped city life and instead built his own comfy cave.

A further drive north to a layby on the outskirts of Girvan gave our final stop of the day to examine more evidence of the explanation of the succession.

Roy Bryce



Red Cherts



Tax Dodge!

Residential Field Trip to Bute 12-14 May 2023

Leader: Dr Con Gillen. Attendees 15

The location of our first excursion of the year was dictated by the fact that trying to book accommodation for around 15 people on the West Coast any further north than Oban has become a near impossible task. In reality, Bute turned out to be a brilliant place to visit.

The Glenburn hotel in Rothesay opened for business in 1843 when many of the richest families in Scotland would go there for their summer break. With the ease of travel for us to fly abroad, we perhaps find it difficult to see the attraction of Rothesay, but the view from the hotel on a fine day would be difficult to beat anywhere.

We assembled around 2pm on the 12th of May for an introduction to the geology of the island from our leader Dr Con Gillen. Although a small island, Bute has a rich variety of geology as we would discover over the next three days. We headed down to the shore a few hundred yards along from the hotel to examine our first easily accessible exposure.



View From the Hotel.



Handy geology.

A little further along the road we came to Kerrycroy Bay which gave us the opportunity to view not only the Devonian sediments but also the beautiful conservation village across the bay.



Kerrycroy Bay

On Saturday we woke up to the sound of foghorns echoing across the town. As large crowds were expected for a triathlon competition around Rothesay, we changed our itinerary and headed across to the west of the island at Scalpsie Bay. Perhaps not as clever a choice as we first thought since we spent the entire day in the fog although on the other side of the island it cleared completely by 11am. Here we got a chance to inspect Carboniferous sediments, Dalradian grit and the locally legendary Haystack Rock.

We continued to be blissfully unaware of the weather on the other side of the island as we made our way to inspect another oddity on Bute, the columnar jointed sandstone.



Haystack Rock



Columnar jointed sandstone

On Sunday the weather remained overcast but dry and we headed down south again to Dunagoil Bay. By the time we got there the weather had cleared and we embarked on the most strenuous part of our excursion.

Here we saw Carboniferous sediments and volcanic plugs and more columnar jointing but this time of the usual igneous dolerite.



Dunagoil Bay



Columnar jointed
dolerite

Back on the road most of the party decided to climb up the path from the car park and visit St Blane's Chapel. Apparently the ruins were beautiful but I chickened out the walk so you will just have to visit it yourself if you want to know for sure.

Our final day started with a trip to Loch Fad. Con knows the people who run the fishery there, so we got permission to head along the loch shore path to see the Devonian sandstone and Loch Fad Conglomerate.

Roy Bryce

Library and Publications Report

Bookshop

The bookshop list was reduced after rationalisation and devaluation of inactive stock. Some titles of books published by Society members are shown below.

<https://geologyglasgow.org.uk/about/bookshop/>

Publications

Copies of all the societies newsletters, billets and proceedings have now been digitised and stored in the National Libraries of Scotland.

Three sets of book donations have been received this year, and these were given away at various events. A donation box was made available and £70 was raised.

Library

The Society's Library is still currently still housed in the Molema Building, and full cataloguing of the contents has commenced. Some of the rare historical texts will be accessioned into the main university library.

Geological Guides

Brian Bell's guide to the Geology of Skye and Raasay was published in October 2022 as a pdf download. Full details at www.skyegeology.com

Gary Hoare

Strathclyde Geoconservation Group Report

The office bearers have not changed and Margaret Greene remains chairperson, David Hamilton as Treasurer and Barbara Balfour as Secretary. Maggie McCallum is in charge of website matters and Margaret Anderson in charge of archives. The average attendance at meetings is 8 members. The meetings have all been on Zoom except one which was held in person in the Kelvin Hall. There are 35 names on the SGG mailing list including seven new names, four of which are from the Geodiversity Argyll and Islands.

Leaflets/Booklets/Geology walks:

Members of SGG have visited several sites: Campsie Glen (to look for essexite), Mugdock Country Park, Linn Park, Calderglen Country Park. As a result of these visits a leaflet on Campsie Glen is near to completion, as are fliers for Linn Park and Calderglen.

Other leaflets in the process of completion are river Kelvin-Dawsholm stretch and Gleniffer Braes, plus a flier version of the Building Stones of Glasgow University.

These leaflets and fliers have proved very popular at Fossil Grove days, Geo Natter and other outreach activities.

Two booklets have been reprinted: The Buildings Stones of Glasgow University, this was used in a walk with the local U3A group. The booklet on the Necropolis geology was also used in walks this year, led by Margaret Greene, and is also available to the public visiting Glasgow Cathedral.

A visit to Carron Glen, led by Paul Carter will take place in Spring 2024 and two members will be visiting Kelburn Country Park.

A Geological Trail around Campsie Glen



The Crow Road and Campsie Glen



Campsie Glen: Lady's Linn

Strathclyde
Geoconservation
Group



THE
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GLASGOW

Geodiversity of Argyll and the Islands (GAI) and Dumfries and Galloway:

Alistair Fleming, chair of GAI made a request to the GSG, to join SGG as there was such a small number of members (4) to cover the whole of the area. Permission was granted and the four GAI members are now on the SGG mailing list and funds from GAI are being transferred to SGG funds.

Daria Zandomeneghi, now a resident in Dumfries, is trying to resurrect geoconservation in the area and has asked for help and advice from SGG. Daria attended the last SGG Zoom meeting and hopes to continue the liaison.

Fossil Grove:

SGG volunteers have been helping on the seven Sundays that Fossil Grove has been open

this season. Some are ‘manning’ the Fossil Grove itself whilst others are outside with stalls for entertaining/educating children in geological matters. These activities have been very popular with the public as have SGG fliers and leaflets.

Local Authorities:

Margaret Greene continues to keep contact with North Ayrshire Council via Zoom meetings and contact with the Biodiversity Officer. MG also attends Local Biodiversity Action Plan (LBAP) meetings of Inverclyde, East Renfrewshire and Renfrewshire. As there are no dedicated geodiversity officers in these areas, Margaret is the only person able to comment on any geological topics and to liaise with the biodiversity officers.

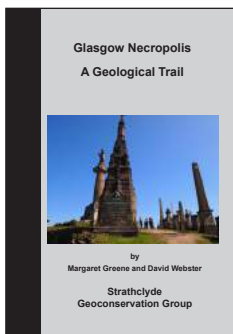
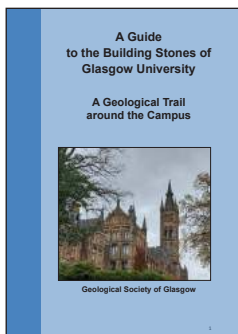
Paul Carter and Mike Browne have only another 4 reports to submit to Anna Perks, Falkirk Council Biodiversity officer, which will complete all the sites that they have identified in Falkirk Council area. The handwritten scripts are typed up by Barbara and Mike adds photos. Paul hopes to write an Audit Report and Action Plan before the end of 2023 which will eventually be submitted to Anna Perks.

Scottish Geology Trust and Geosites Project:

On Saturday 2nd September 2023, SGG volunteers took part in ‘Rock Doctor’ event in the Hunterian Museum as part of the SGT’s Scottish Geology Festival. All the activities were very well received and it is hoped to do a similar event next year.

In 2023, SGT launched their Geosites Project, and it is hoped that next year SGG members and members of GSG will visit and add content to some of the local sites.

Margaret Greene



Fossil Grove Report

Four members of the society (Walter Semple, Campbell Forrest, Ian Veitch and David Webster) are members of the Fossil Grove Trust, which with other members of local organisations and elected members of the City Council has now been reconstituted as a Scottish Incorporated Charitable Organisation (SCIO).

Progress this year on the long-term renovation project to restore the building and conserve the fossils has been put on hold. Tender estimates for Phase 1 of the Programme were significantly higher than expected and a review is taking place with all stakeholders to find a modified way forward.

Meanwhile the Trust with help from other Society members, the SGG and others from the local community have been organising more open afternoons. These have been very successful and between 200 and 400 people came to each of the seven open afternoons we ran on the third Sundays of the month from April to October including specific events for the Scottish Geology Festival and Doors Open Day. A number of school and U3A groups also visited and a start was made on developing some 'hi-tech' resources for primary school groups with the help of Glasgow University's Computer Science Department.



David Webster

Geo-natter Report

Originally launched on the 13th July 2022, Geo-natter aims to provide an informal means for enthusiasts of all ages to meet up to chat about geology and fossils. The project was developed by Dr Neil and Clare Clark.

Geo-natter events were open to anyone with an interest in any aspect of Geology and was advertised through the Society's web site and social media. The public were actively encouraged to come along, membership of the Society was not a requirement. They were held generally on two Wednesdays of most months from 1:30 to 3:30 in the Hunterian section of the Kelvin Hall. Some were themed, others were more general. During this session themed events were held on 18 Jan (fossil shrimps), 1 Feb (coprolites), 15 Feb (crinoids), 1 Mar (ammonites), 15 Mar (agates), 29 Mar (quiz), 10 May (Madiera), 24 May (Geology up close), 7 June (trilobites), 5 July (University building stones) and a varied range of fossils and minerals were shown throughout the year.

Attendance has been steady at every session with a healthy stream of new faces. Special thanks to all the regular attendees who make these events such a welcoming and relaxed environment to new attendees.

Gary Hoare

Website Report

In Session 165, there were some minor changes to the layout of the website and a considerable amount of new material was added. The website continued to reflect the return of the society's activities to normal after the Covid-19 pandemic by publishing details of the lecture and excursions programmes. Access to the Local Sites of Interest page was improved by the addition of menu items in the Local Rocks and Geoconservation menus. Links to the society's new WebCollect account were added to the How to Join page. A new set of extracts from the society's proceedings for significant anniversary years (150 years ago to 25 years ago at 25 year intervals) was added to the Archive section. Our thanks are due to the society's honorary archivist Margaret Anderson for preparing all the anniversaries material for the past 9 years. The Archive section and the Society Presidents page are well worth exploring for the fascinating insight they give into the society's history.

The traffic to the website has increased steadily since the website was launched in January 2011. During Session 163 there was a major increase in the number of visitors, probably reflecting the Covid-induced restriction of outdoor activities, but Sessions 164 and 165 saw a return to the previous trend (although there was a reduced number of visits in Session 165 compared to session 164). During Session 165, there were 71,991 visits to the site, a decrease of 18.8% from the total for Session 164 (88,668). The number of visitors, as opposed to visits, was 61,694, a decrease of 18.3% from the total for Session 164 (75,520).

The decrease in visits in Session 165 was solely the result of decreased traffic from abroad, as the traffic from the UK actually rose. The number of visits from the UK was 12,040, 16.7% of the total visits and an increase of 7.4% from the UK visits for Session 164 (11,209). Outside the UK, the three most productive countries were the Philippines with 20,097 visits (36,502 in Session 164), the USA with 7,852 (10,140) and India with 7,108 (11,494). Thus the UK was second in the league of source countries in Session 165, as opposed to fourth in Session 164. Within the UK, England accounted for 6,798 visits (5,542 in Session 164), Scotland for 4,741 (5,199), Wales for 237 (205) and Northern Ireland for 189 (168).

London was the most productive city within the UK, with 3,045 visits (1,768 in Session 164), followed by Glasgow with 1,688 (1,951) and Edinburgh with 635 (609).

The most popular part of the website was again the Local Rocks section, with the Rock Cycle page accounting for 40.9% of page views, followed by the Rock-forming Minerals page (34.6%) and the Metamorphic Rocks page (5.1%). Other popular pages were the website's Home page (5.5%), the Arthur Holmes page (2.2%), the Lectures page (0.8%) and the Events page (0.7%).

By far the most productive source of traffic to the website was the Google search engine, which was responsible for 60,082 visits or 83.5% of the total number (73,867, 83.3% in Session 164). The next most productive was direct logons to the website, which produced 9253 visits or 12.9% of the total (9,945, 11.2%), while the search engine Bing

produced 798 visits or 1.1% of the total (1,051, 1.2%). The majority of the remaining visits resulted from referrals from social media or other websites. The most productive source of referrals was Facebook with 411 referrals or 0.6% of the total visits (582, 0.7% in Session 164), while Google Classroom produced 275 referrals or 0.4% of the total visits (278, 0.3%). There were 97 referrals (0.1% of the total visits) from the Scottish Geology Trust website (100, 0.1% in Session 164).

In addition to the website, the society uses its Facebook page and X (formerly Twitter) account ([@GeoSocGlasgow](#) for both) to engage with the public. Both of these have been steadily gaining in popularity. The Facebook page, which Neil Clark looks after, now has 230 followers, 17 more than a year ago, and the X account, looked after by David Webster, now has 473 followers, 96 more than a year ago. If you have a Facebook account, please “like” and share any society posts that you find particularly interesting and, if you have an X account, please follow us and retweet any of our tweets that you like.

Bill Gray

Scottish Journal of Geology Report

There have been significant changes to the Editorial Board this session, including the retirement of Colin Braithwaite (University of Glasgow) as Editor in Chief following 35 years with the journal. Colin joined the Editorial Board in 1988 and became Editor in Chief soon after. He negotiated the original publishing agreement between the SJG owners – EGS, GGS and the Geological Society of London (GSL) in 2008, and he recently worked with Walter Semple to renegotiate this agreement. Colin nominated Heather Stewart (British Geological Survey) to replace him as Editor in Chief following ratification by the owning societies.

We are currently looking to increase our Board membership further and are in discussion with several individuals to diversify our Board. Increasing the Board membership will promote fresh ideas to grow the journal, and bring in expertise from emergent research areas. To that end Fiona Todd, an Early Career Researcher with expertise in mine water energy recently joined us from the Coal Authority. Fiona joins our established Board members Yves Candela (National Museum of Scotland), Iain Neill (University of Glasgow) and Romesh Palamakumbura (British Geological Survey). Recommendations for new Board members from the EGS and GGS would be welcome.

Recent years saw a fall in submissions to the Scottish Journal of Geology; however this trend looks to be slowing and we are hoping recent metrics indicate a reverse (Table 1). Several initiatives have been implemented over recent years to boost submissions and subsequent accepted articles. The most successful of these are the Thematic Collections which began with the Early Career Researcher volume that continues to receive submissions, now comprising 17 articles. New for 2023 is a collection on The Palaeontology of Scotland, led by Yves Candela. This new topic already has three published original research papers, with two more in review and more submissions expected.

Table 1: Submissions and accepts.

	2019	2020	2021	2022	2023*
Submissions	32	32	22	13	24
Accepts	14	16	12	13	>10 so far

*Forecast

Additionally, we have introduced a new type of contribution for the SJG: Perspective articles. These commentaries highlight the context, impact and wider implications of new research, or key challenges, and their meaning for society. Generally, perspective articles present a brief viewpoint on a specific area of investigation and can include: a discussion of current advances and future directions; presentation of the authors' perspective; accurate presentation and citations of other authors' work, as relevant; original data (optional) as well as personal insights and opinions. A word count of 3,000 words is recommended as an upper limit for Perspective articles and may contain up to 4 figures/tables. To trial these articles, several organisations and individuals have been approached and we hope to be able to report back on the success of these contributions next year. There are other initiatives in discussion by the Board (e.g. joint initiatives with sister journals, conference volumes, best publication award, different article formats) and all ideas from our parent societies are welcome.

The new publishing agreement places SJG in a stronger position for the changing publishing landscape. Broadly speaking the key changes were around Open Access publishing, and going forward the SJG remains a hybrid journal, the transition to online-only format, and the discontinuation of GSL print editions (agreed by EGS/GGS) in line with GSL portfolio. The SJG now has Transformative Journal Status in relation to both its hybrid status and amount of Open Access content.

Heather Stewart

Volume 58 Part 2 Contents

New information on the Early Devonian acanthodian *Mesacanthus mitchelli* from the Midland Valley of Scotland

Carole J. Burrow, Jan L. den Blaauwen, and Michael J. Newman

<https://doi.org/10.1144/sjg2021-004>

The Palaeozoic genus *Psephodus* (*Chondrichthyes*, *Cochliodontiformes*) and the transition from teeth to tooth plates in holocephalians

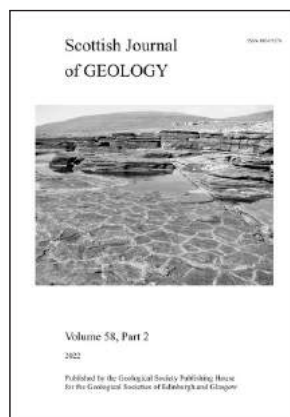
Wayne M. Itano

<https://doi.org/10.1144/sjg2021-01>

Investigation of coastal environmental change at Ruddons Point, Fife, SE Scotland

Sarah Louise Boyd, Tim C. Kinnaird, Aayush Srivastava, John E. Whittaker, and C. Richard Bates

<https://doi.org/10.1144/sjg2022-005>



Dr Geoff Tanner

1938-2023



Geoff Tanner in 1988 when he was 50 years old. Photo courtesy of Dr Michael Badley

Peter W. Geoffrey (Goeff) Tanner was born in Putney 1938 and died aged 84 in 2023. After schooling in Worthing he worked at ICI for a year then entered Sheffield University to read chemistry, transferred to Geology and obtained a 1st class degree. From 1962-5 he did an Imperial College PhD in structural and metamorphic mapping of the Kinloch Hourn district under John Ramsay and first recognized the Sgurr Beag Slide, a major tectonic break discovery which unlocked the stratigraphy and structure of the Moines. To finance writing up in 1964-5 he became company geologist of the Blue Circle Cement Company for a year. He moved to University of Leeds under Robert Shackleton and mapped the Connemara Dalradian 1965-8 followed in 1968-72 by the structure of the Ruwenzori Cu-Co mineralization in Uganda. From 1973-79 he was a Principal Scientific Officer with the British Antarctic Survey, mapping from a tent the geology of the NE coast of South Georgia under cold harsh windy conditions; later the nearby Tanner Island was named after him.

In 1979 he was appointed Lecturer (later Senior Lecturer) in Structural Geology in the Geology Department of Glasgow University, being a superb teacher. He resumed work in Connemara and in the Highlands of Scotland and from 1982-6 he was a subject editor for the Journal of the Geological Society. He retired officially in 2003 but taught unpaid for a year. He continued as an Honorary Research Fellow and initially in his very active membership of the Tectonic Studies Group and his long-continued love of trout fishing which he often combined with his meticulous mapping at very large scales (1: 500-700) to get the detail in.

In 2008 the Edinburgh Geological Society awarded him the Clough Medal for “His outstanding work on the rocks of the ‘Highland Border Complex’ and their relationship to the Dalradian succession across the Highland Boundary Fault” in which he overturned the accepted interpretation to show the top Dalradian was Ordovician and in the Highland Border Complex.

Geoff’s work of ~110 papers was noted for exceptionally careful observation and

critical thinking such as elucidating the chevron-folding mechanism by mapping in South Georgia, Devon and Cornwall; strain partitioning in transpressive zones; showing the pre-D1 and D2 folding age of the Scottish Ben Vuirich 'Older' Granite; dating the Mannin Thrust movement and co-authoring the Memoir and map of the Geology of Connemara; continued work on the Moines and the enormous labour of detailed mapping of 20 sites for the 2013 Geological Conservation Review of the Dalradian Supergroup in Scotland and co-authoring four of the seven papers. A masterpiece was his 2014 shrewd review and assessment of the previous work and models of the Dalradian rocks in the Grampian Highlands to Midland Valley in his 'A kinematic model for the Grampian Orogeny, Scotland'. This concluded with a brilliant solution combining SE motion of the Dalradian Tay Nappe and NW subduction of Dalradian.

Geoff's life was dedicated to research and teaching in geology and he was very highly regarded by his contemporaries. Geoff left Judith, his wife of many years, a daughter Oona and a son Felix and grandchildren.

Bernard Leake

Some key papers authored by Geoff

Tanner, P.W.G. & Bluck, B.J. 1999. Current controversies in the Caledonides. *Journal of the Geological Society*, **156**, 1137-1141.

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Tanner, P.W.G., Leslie, A. G. & Gillespie, M. R. 2006. Structural setting and petrogenesis of the Ben Vuirich Granite Pluton of the Grampian Highlands: a pre-orogenic, rift-related intrusion. *Scottish Journal of Geology*, **42**, 113-136.

Tanner, P.W.G. 2008. Tectonic significance of the Highland Boundary Fault, Scotland. *Journal of the Geological Society*, **165**, 915-921.

Tanner, P.W.G., Bendall, C.A., Pickett, E.A., Roberts, J.L., Treagus, J.E. and Stephenson, D. 2013. The Dalradian rocks of the south-west Grampian Highlands of Scotland. *Proceedings of the Geologists' Association*, **124**, 83-147.

Tanner, P.W.G., Thomas, C.W., Harris, A.L., Gould, D., Harte, B., Treagus, J.E. and Stephenson, D. 2013. The Dalradian rocks of the Highland Border region of Scotland. *Proceedings of the Geologists' Association*, **124**, 215-262.

Tanner, P.W.G. 2014. A kinematic model for the Grampian Orogeny, Scotland, *In* Corfu, F., Gasser, D. & Chew, D. M. (eds), *New Perspectives on the Caledonides of Scandinavia and Related Areas*. Geological Society, London, Special Publications, **390**, 467-511.

Robin Painter

The Society was saddened to hear of the death in April 2023 of Robin Painter. He was a member from 1986 to 2017, joined the Council in 2001 and served as Membership Secretary from 2005 until 2017. He also was involved in publicising the Society by printing and distributing leaflets about Society activities.



Essexite from the Crow Road, near Campsie Glen. An unusual variety of alkali-gabbro. Large augite crystals stand-out. This rock has been found extensively across central Scotland as glacial erratics it helps with the understanding of ice movement during the last Ice Age.



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