THE GEOLOGICAL SOCIETY OF GLASGOW

Registered Scottish Charity No. SC007013

President: Dr Jim Morrison

www.geologyglasgow.org.uk

December 2018 **161/2**

The Moine Thrust at Knockan Crag, placing Moine mylonitic schists over fractured dolostones of the Eilean Dubh Formation. Jim Morrison will tell more in his January lecture (photo courtesy BGS photograph P531955, © NERC).

In this newsletter:

Lecture meetings

All lectures are held in the *Gregory Building, University of Glasgow, Lilybank Gardens, Glasgow G12 8QQ* (unless otherwise noted). Meetings commence at 7.30 pm.

Details of all the lectures for this session can be found on the society's website at www.geologyglasgow.org.uk/lectures.

Thursday 13th December 2018

NOTE: to be preceded by a brief AGM commencing at 7:15 - with drinks/nibbles social afterwards

***Dr Roddy Muir**, Midland Valley Exploration, Edinburgh.*

"Ben Nevis - remnant of a lost volcanic landscape"

For three summers between 2014 and 2016, field geologists worked alongside professional climbers and botanists to undertake a new survey of the geology and Alpine flora found on the North Face of Ben Nevis, Britain's highest mountain. The survey was co-ordinated by the Nevis Landscape Partnership, a charitable trust established in 2003 to help guide and manage opportunities for visitor enjoyment and appreciation of the wider Nevis area. Data on the geology and botany was gathered on iPhones using a digital compass clinometer FieldMove Clino, and the data was then transferred to the software application Move for further analysis and model building.

In 2015, geological field mapping was extended to include the whole of the late Caledonian Ben Nevis Igneous Complex (~430 Ma) and the late Precambrian Dalradian metasedimentary country rocks. The results of the new field mapping and 3D model building have provided important insights into the geometry, emplacement and preservation of the plutonic and volcanic rocks in this classic area of world-renowned geology.

Structural data indicate that the plutonic rocks forming the Ben Nevis Igneous Complex have a laccolithic (blister like) form with a gently domed roof and was fed by magma rising up steep-sided NE-SW trending fissures in the core of the Appin Syncline. The summit region of Ben Nevis consists of late Silurian to Early Devonian age volcanic rocks originally interpreted as a thick sequence (>600m) of andesite lavas and agglomerates that were down-faulted during caldera subsidence. New field mapping has revealed that the volcanic rocks consist largely of volcaniclastic debris flows, and extensive block and ash flow deposits with minor air-fall tuff units. There is no evidence of any andesite lava flows or a volcanic vent. The volcanic detritus was derived from a volcanic centre situated to the NW of Ben Nevis, perhaps several tens of kilometres away. The rocks forming the summit region of the mountain have been re-interpreted as a large roof pendant or keel of the former late Silurian to Early Devonian volcanic land surface that once covered much of the SW Highlands of Scotland. Without the granites of the Ben Nevis Igneous Complex surrounding and protecting the volcanic rocks from recent glacial erosion, there would have been no evidence for the remnant landscape now preserved at the summit of the highest mountain in Britain.

Roddy joined Midland Valley in 2006 and has a strong background in structural geology, with particular emphasis on the influence of basement structure on basin architecture. He is also an experienced petroleum geologist, having worked on numerous prospect evaluation studies ranging in scale from global deep-water basins to detailed licence block and field reviews.

Background reading: R. J. Muir and A. P. M. Vaughan, 2017. Digital Mapping and Three-Dimensional Model Building of the Ben Nevis Igneous Complex, Southwest Highlands, Scotland: New Insights into the Emplacement and Preservation of Postorogenic Magmatism, *Journal of Geology* **125**, 607-636.

Thursday 10th January 2019

Retiring Presidential Address

Dr Jim Morrison, *Geological Society of Glasgow.*

"A broader view of the Moine Thrust"

The Moine Thrust (MT) marks the edge of the rocks – mainly schists of the Moine Supergroup - which were carried WNW over the Foreland of mainly Lewisian gneisses during the Scandian orogeny (440-420 Ma) when Scandia was pushed towards the eastern margin of Laurentia, probably by more than 100km.

There are other contemporaneous thrusts and faults to the E and W of the MT and to the E lies the Great Glen Fault (GGF) which plays a role in the overall geometry of the MT and the associated Northern Highland Terrane. Rocks now to the E of the GGF – including the modern Grampian Terrane – lay some distance to the SW at the time of thrusting.

Most interest in the MT has been in the mainland from Sleat in Skye to the N coast of Sutherland near Tongue and Faraid Head, but the MT also lies undersea to the S, where it passes to the W of Mull and eventually intersects the GGF or one of its splays. Beyond Faraid Head it continues towards Shetland, where it probably intersects the Walls Boundary Fault (northern extension of the GGF).

The talk will cover aspects of the mainland MT, and go on to consider what is known about the undersea sections

Jim was born and brought up in Aberdeen and graduated in Biochemistry from Aberdeen University in 1964, then moved to GU, where he did a PhD under Hamish Keir and Prof J N Davidson on DNA replication in herpesvirus. 'JND' was a friend of 'TNG', indeed the two families holidayed together. After a spell as research fellow at Stanford University with Nobel Laureate Arthur Kornberg, he spent the rest of his career at GU, teaching Science, Medical and Vet students and

continuing his herpesvirus research. Latterly, he became interested in all viruses and especially their evolution, because from the mid-198s, the DNA and RNA sequences of all kinds of viruses were determined and so the genetic relationships between them could be evaluated.

He has always been interested in rocks of hill and shore in NE Scotland and in the early 1980s Graham Durant, then at the Hunterian, introduced him to the GSG, where he made steady progress with the help of 'real' geologists – Brian Bluck, Chris Burton, Jim MacDonald, Geoff Tanner, etc. and people at BGS Edinburgh, especially the Late John Mendum. Jim's intitial interest was the Highland Boundary fault, but this soon extended to all Highland geology and especially the Great Glen Fault and the Moine Thrust. Starting sea kayaking in 2004 allowed him to explore some of the less accessible areas of Mull and Shetland. His interest in virus evolution has parallels with the notions of the evolution of geological structures in the Highlands, especially in the period 1200-400Ma.

Thursday 14th February 2019

JOINT LECTURE with GLASGOW NATURAL HISTORY SOCIETY

Dr Nick Fraser, *National Museums of Scotland*

"The Heath Robinson World of the Triassic"

The Triassic (~250-200 Mya) is a critical period in earth's history. It saw the origin of many of the major groups of modern animals, for example mammals, crocodiles, turtles and true flies and is sometimes referred to as the Birth of the Modern World. It was also the time when the first dinosaurs walked the planet. But it was much more than this – the Triassic World was a strange mix of "conventional-looking" reptiles alongside truly bizarre Heath-Robinson contraptions. In this presentation Nick will explore the depths of the Triassic Tethys Sea, extending from the modern-day Alps and southern China, to the ancient rift basins of Pangaea, now exposed in the vicinity of Dulles airport and the Mid-Atlantic States.

Nick Fraser is head of the Department of Natural Sciences and specialises in vertebrate palaeontology. Dr Fraser studied zoology as an undergraduate and geology as a postgraduate at the University of Aberdeen. He worked for 18 years at the Virginia Museum of Natural History before moving back to Scotland and National Museums Scotland in 2007. He is an Adjunct Professor in the Department of Geosciences, Virginia Tech and Honorary Fellow in Geosciences, Edinburgh University. Dr Fraser's research is interdisciplinary and centres on the Triassic period (250 -201 million years ago). Collaborating with a number of colleagues worldwide, he has published extensively on Triassic faunas and floras.

Background reading: Fraser, N.C. and H.-D. Sues. 2011. The Beginning of the Age of Dinosaurs: a brief overview of terrestrial biotic changes during the Triassic. Earth and *Environmental Transactions of the Royal Society of Edinburgh* **101**, 189-200.

Wednesday 20th February 2019

CLOUGH MEDAL and JOINT CELEBRITY LECTURE with EDINBURGH GEOLOGICAL SOCIETY

Note: this lecture will be held at 7:30 in the Hutton Lecture Theatre, Grant Institute of Geology, The King's Buildings, James Hutton Road, Edinburgh EH9 3FE

Dr Tim Dempster, *University of Glasgow*

"Sideways views of Scottish garnets: insights into metamorphic processes"

Garnets are capable of recording original compositions during growth and hence allow determination of pressure-temperature paths and durations of metamorphic events. However, studies of garnet from the Scottish Highlands have questioned some key concepts of metamorphic equilibrium. Surface and internal zoning patterns reveal a failure to equilibrate at both staurolite and sillimanite isograds, and question assumptions about fluid availability and rates of intergranular transport. This emphasises the importance of kinetic controls on metamorphic reactions. Individual porphyroblasts may have a unique response to prograde metamorphism and control both subsequent reaction pathways and index mineral distribution.

Tim is currently a senior lecturer at the University of Glasgow. His research interests are focused on the use of minerals to reveal information on crustal processes, including using zircon as an indicator of low and medium grade metamorphic processes and garnet zoning to assess the role of diffusion processes in controlling metamorphic reactions. Other interests include the study of grain boundaries and the movement of fluids through the crust and the morphology of mineral surfaces as a guide to reaction history, palaeoporosity and deformation in crustal rocks. In addition, he researches chemical zoning in accessory minerals as a monitor of crystallisation history to better understand the initial phases of orogenic evolution and the links between surface processes and tectonics.

More information at: www.edinburghgeolsoc.org

Background reading: Dempster, T. J., La Piazza, J., Taylor, A. G., Beaudoin, N. and Chung, P. (2017) Chemical and textural equilibration of garnet during amphibolite-facies metamorphism: The influence of coupled dissolution-reprecipitation. *Journal of Metamorphic Geology,* **35**, 1111-1130.

Future Lecture Dates for your Diaries

Thursday 14th March 2019

Dr Bernard Besley, *Besley Earth Science Ltd*

"Variscan Basin Evolution in Southern Britain"

Full details of Bernard's talk will be in the February newsletter and will be posted on the website when available.

Thursday 11th April 2019

Dr Nick Scofield, *University of Aberdeen*

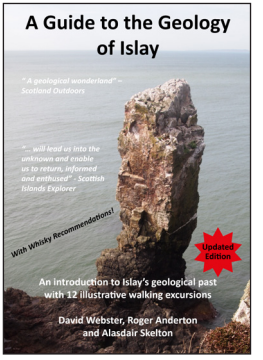
"Hydrocarbon Exploration in Volcanic Effected Basins"

Full details of Nick's talk will be in the February newsletter and will be posted on the website when available.

Residential Excursions 2018

Islay: Fri 26th – Mon 29th April 2019.

Leader: David Webster



The geology of Islay is amazingly varied – 1800 Ma gneiss, Precambrian metasediments and fossil stromatolites, the famous Port Askaig Tillite (possible 'Snowball Earth'?), low grade metamorphic Dalradian rocks retaining original sedimentary structures, reactivated and reversed extensional faults, substantial mineralisation, 60 Ma igneous intrusions (opening of the Atlantic Ocean) and a large selection of Quaternary Ice Age features. We plan to visit key localities with the aid of "A Guide to the Geology of Islay" by David Webster, Roger Anderton & Alasdair Skelton.

Accommodation will be B & B in Bowmore; transport will be in shared cars.This trip is now fully booked. However, there is a waiting list.

Angelsey : 22-27 Sept 2019

Leader: ChrisArkwright.

Advance notice of a 5-night trip which is still at the early planning stages.

For more details about these trips please email Maggie Donnelly at restrips@gsocg.org.

News and Topical Articles

Fossil Grove – Update

In conjunction with Historic Environment Scotland (HES), the Fossil Grove Trust have now installed four temperature/humidity monitors in various locations and also four time-lapse cameras to photograph the water ingress points (see photo). Integrating these data and observations with ambient weather data should provide a better picture of the problems being caused by the excessive humidity. HES are undertaking decay mapping and further salt, water, metal beam and paint sampling together with XRD and XRF analyses which wil be integrated with the laser scanning to build a full model of the locality. This will form a sound scientific basis for setting the optimum environmental conditions for future conservation and also a informing an appropriate restoration programme. The magnesium salts found on the fossil floor are particularly worrisome as they are gradually breaking up the surfaces. Various options to improve the lighting are being discussed and hopefully a solution will be in place by the time the building opens next Easter. Excavations and drain replacements have improved the drainage but more requires to be done and the ventilation needs improving.

This year over 5,700 people (a 27% increase on the previous year) visited the site - a third of them children; which demonstrates its considerable outreach potential. Discussions with major stakeholders on future ownership, building options, sustainability, resourcing etc have ramped up recently and hopefully a way forward can be found soon.

Geoweek 2019

GeoWeek is a new BGS initiative that aims to promote 'active geoscience' via a nine-day 'week' of fieldwork activities taking place across the UK between 4 and 12 May 2019.

GeoWeek seeks to introduce as many members of the public to geoscience as possible, mainly through outdoor activities such as urban, rural or coastal fieldwork.

The BGS are hoping that individuals, groups or societies will set up a field visit during the nine-day 'week'. Different strategies that might be considered include:

- planning a ‘normal’ geoscience fieldtrip locally
- making some of the sites into Earthcache sites (see below)
- stationing people at a number of sites of geoscience interest in the area, and giving members of the public a map and a leaflet or similar to help them to find and find out about as many of the sites as possible

If you are interested in organising such an event please tell people about the event by advertising it on appropriate social media, website etc but please also fill in the simple participation form to put your event on the GeoWeek’s UK and Ireland map.

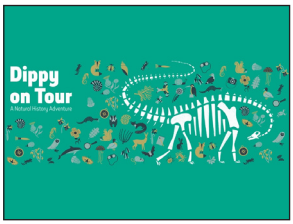
The eventual aim is to emulate the Spanish Geolodays initiative that takes 10,000 members of the public on fieldwork on one day each year!

NB: GeoWeek is not responsible for the health and safety of events and does not insure events. GeoWeek does not carry any funding.

Setting an Earthcache: Use the BGS ’How to set an Earthcache’ page at www.bgs.ac.uk/geoweek/earthcache for a step-by-step guide to setting up a new Earthcache as a focus for fieldtrips. Once you’ve set up an Earthcache people can also use it at other times of the year.

For more information see www.bgs.ac.uk/geoweek/

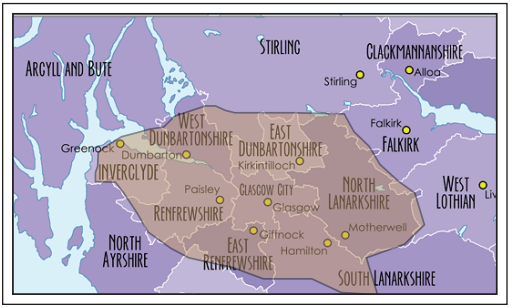
Dippy’s Visit to Glasgow 2019



As part of Dippy’s visit next year there will be a ‘Societies Day’ at the Kelvingrove on Saturday 16th February. The Society and the Strathclyde Geoconservation Group will have stalls at the event - which is aimed at increasing awareness of groups involved in earth science outreach. If you are interested in helping out on the day then please see any Council member.

Glasgow Geology Guide

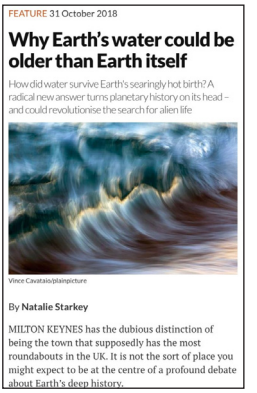
The publications group of the council has begun work in earnest at producing a new geological guide to the Glasgow area. It will cover the broad ‘Greater Glasgow’ area taking in the local authority areas of Glasgow, Inverclyde, Renfrew, East Renfrew, North Lanarkshire and both East and West Dunbartonshire plus a wee bit



of Argyll and Bute and the northern part of South Lanarkshire. Most of the technical geological information and interpretation already exists so this project is all about producing an accessible-to-all well-produced book with up-to-date photos, new maps, access issues etc. We envisage that members of the Society could help with this by visiting localities, checking access and visibility of features, taking new photographs, drawing/editing maps etc and passing information to the project team for compilation into the guide. If you are interested in helping out then please get in touch with any Council member.

New Scientist

NS is often a good source of well-written and accessible new geological research articles. Some recent examples. A subscription is, however, required to read the full articles.


FEATURE 31 October 2018

Why Earth's water could be older than Earth itself

How did water survive Earth's searingly hot birth? A radical new answer turns planetary history on its head – and could revolutionise the search for alien life

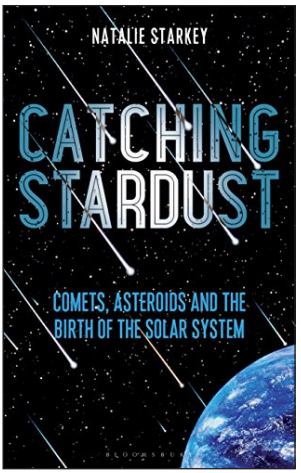
Vince Cavataio/plainpicture

By **Natalie Starkey**

MILTON KEYNES has the dubious distinction of being the town that supposedly has the most roundabouts in the UK. It is not the sort of place you might expect to be at the centre of a profound debate about Earth's deep history.

- ***Why Earth's water could be older than Earth itself.*** *How did water survive Earth's searingly hot birth? A radical new answer turns planetary history on its head – and could revolutionise the search for alien life.* Article by Natalie Sharkey from the Open University - book also available, see below:
- ***Earliest known animal might have inflated its body like a balloon.***
- ***Pluto's weird ridges may be glacial landforms unlike any on Earth.***

NEW BOOK - Catching Stardust by Natalie Sharkey



Icy, rocky, sometimes dusty, always mysterious – comets and asteroids are among the Solar System's very oldest inhabitants, formed within a swirling cloud of gas and dust in the area of space that eventually hosted the Sun and its planets. Locked within each of these extra-terrestrial objects is the 4.6-billion-year wisdom of Solar System events, and by studying them at close quarters using spacecraft we can coerce them into revealing their closely-guarded secrets. This offers us the chance to answer some fundamental questions about our planet and its inhabitants.

... a must-have for anyone interested in where we came from. (Matt Taylor, ESA Rosetta Project Scientist)

... builds a strong case for why continuing to explore comets and asteroids is so important to understanding our past and in shaping our future. (Jessica Sunshine, Professor of Astronomy, University of Maryland)

Notices

Subscriptions

Thank you to all those members who have renewed their subscriptions for the current Session (161).

If you require to set up a Bankers Standing Order as your routine method for future payments (which is the Society's preferred arrangement), please notify the Membership Secretary. A form can be sent to you electronically or by post.

Annual subscriptions for Session 161 were due from 1 October, 2018 at the following rates:-

Ordinary Membership (Including Scottish Journal of Geology): £25

Associate Membership (available to those over 60, or spouses of Ordinary Members, or members of the Edinburgh Geological Society) : £12.50

Junior Membership (available to those under 25, or full time undergraduates, or recent (4years) graduates : £6.25

Note that the Scottish Journal of Geology is only sent to Ordinary Members and to those Junior members who pay an annual supplement of £6.25.

Cheques, made payable to Geological Society of Glasgow, should be sent to the Membership Secretary unless a Bankers Standing Order has been signed. Please indicate the Member for whom payment is being made if not apparent from the cheque e.g. a cheque from 'Anyone' paying for a member 'Someone else'.

Membership Card: The membership card which you should have received with the previous newsletter not only gives information on the lecture programme, but can also be used to provide proof of membership when joining the University Library for example. To validate it you need to add your name and reference number, which is printed on the right of the mailing label used for the newsletter. or from the Membership Secretary.

Membership Secretary: Campbell Forrest, e-mail:- memsec@gsocg.org

New Members:

We welcome the following new members:

Scott Crerar
Archean Harena
Eamon McKenna
F M Shaw
John Guerrrier
Sarah Stewart
Antonia Burns
Stewart Martin
Stephen Pratt

Courses at the Glasgow University Centre for Open Studies

Geology in the Field

Field studies and examining rocks in the field are the basis of all geology. We will examine the geology and geomorphology of a series of areas within easy reach of Glasgow. There will be five full-day excursions by private car. Walking will generally be easy and no prior knowledge of geology needed.

Dates: Apr 17 - May 15, 2019

Tutor: Michael Keen

Mission to Earth: Exploring the strange blue planet

You're a scientist from a distant exo-planet, sent to explore a strange, watery world orbiting a nearby star. How will you survey this novel, complicated world? What is it made of? What processes shape it? Is there life and is it responsible for some of the planet's odd characteristics? What is this planet's story? The planet is, of course, Earth. In this course we explore our home planet from an outsider's perspective to see the big picture of how it works, how it came to be and our own role in its future.

Date: Sat Feb 9 2019

Tutor: Simon Cuthbert

Mountains under the microscope: A practical guide to geological microscopy

One of the most useful tools of the geologist is the petrological microscope. This course provides practical experience in its operation for examining thin sections of rocks. The images are both beautiful and informative, opening up a fascinating new world of interest. More sophisticated techniques such as electron microscopy will be introduced. Applications in archaeology, conservation and forensic science will also be touched upon. A basic knowledge of common rock types is recommended.

Date: Sat Mar 23 2019

Tutor: Simon Cuthbert

The Life and times of Dippy the Diplodocus

Dippy the Diplodicus is visiting Scotland from the Natural History Museum in London, wheret has been exhibited since 1905. This is the first time it has toured Britain and Kelvingrove is the only venue in Scotland that it will visit. Dippy is a cast of the type specimen of Diplodocus carnegii and was named after the Scottish-American industrialist and philanthropist Andrew Carnegie. The course will consist of a talk about Diplodocus on the university campus, followed by a visit to Kelvingrove for a guided tour of Dippy.

Date: Wed Feb 6 2019

Tutor: Neil Clark

For more information and to book see: www.gla.ac.uk/study/short/book/category/167

Events from other geological societies

Edinburgh Geological Society: www.edinburghgeolsoc.org

9th January – Dr. Dave Millward. Rock plants for a geologist

23rd January - Dr Roger Anderton. From Mid Argyll to Mull: the sea bed geology of the Firth of Lorne

6th February - Dr Hugh Barron. The Glasgow Geothermal Energy Research Field Site

20th February - Dr Tim Dempster. Sideways views of Scottish garnets: insights into metamorphic processes

6th March - Prof. Frank Rennie. A Lewisian Perspective: The basement of the Earth

20th March - Brighid O'Dochartaigh. Scotland's aquifers: an introduction to aquifer properties, baseline chemistry, groundwater use & management in Scotland

Aberdeen Geological Society: www.aberdeengeolsoc.org.uk

6th December - Dr. Steve Brusatte. The rise and fall of dinosaurs

7th February - Catriona Menzies. A journey through a tectonic plate boundary

21st February - Chris Ravey. Long-term maintenance of excavations in rock.

7th March - Amanda Owen. Fluvial response to the Palaeocene-Eocene thermal maximum

28th March - Simon Drake. Discovery of a meteorite ejecta layer, Skye

11th March - Andrew MacMillan - Building Stones of the Highlands and Islands

Highland Geological Society: www.spanglefish.com/highlandgeologicalsociety

5th December – Alan Crane. Seychelles - a Unique Microcontinent.

23rd January - David Jarman. The Parallel Roads of Glen Roy.

27th March - Dr Angus Miller. An Introduction to the Geology of Eigg,

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Articles for the Newsletter

We would like to include short topical article(s) in each Newsletter. If you have news of a recent event or discovery, opinions on geological matters, or wish to let people know about aspects of geology in the Glasgow area or the wider world, then please send your article to the Hon Secretary or the Newsletter Coordinator.

Hon. Secretary: Walter Semple email: sec@gsocg.org
Newsletter Coordinator: David Webster email: meetings@gsocg.org

Geological Society of Glasgow
Annual General Meeting
Thursday 13th December 2018 at 7:15
Agenda

1. Welcome
2. Apologies
3. Approval of Minutes of the Annual General Meeting of Session 160 held on Thurs 14th December 2017 and any Matters Arising.
4. Reports
    a. *President's report*
    b. *Meetings Secretary's report*
    c. *Day Excursions Secretary's report*
    d. *Residential Excursion Secretary's report*
    e. *Librarian's report*
    f. *Publications Officer's report*
    g. *Proceedings Editor's report*
    h. *Scottish Journal of Geology Editors' report*
    i. *Website report*
    j. *Membership Secretary's report*
    k. *Strathclyde Geoconservation Group report*
    l. *Geodiversity: Argyll and the Islands report*
    m. *Treasurer's report*
5. Nominations and Election of Office Bearers
6. AOCB

AGM Papers and Reports

Item 3: Draft Minutes of the Annual General Meeting of Session 160 held on Thursday 14th December 2017

1. WELCOME

The President welcomed all present

2. APOLOGIES

None

3. MINUTES

The minutes of the AGM of Session 159 which was held on 8th December 2016 had been distributed with the newsletter. These were approved by the assembled company. There were no matters arising.

4. REPORTS

Dr Morrison went through the reports of the various office bearers, copies of which had been sent out to members in the newsletter prior to the AGM.

The reports were as follows: -

The President's report
Meeting Secretary's report
Day Excursions report
Residential Excursion report
Library report
Publications Officer's report
Proceedings Editor's report
Scottish Journal of Geology Editors' report
Website report
Membership Secretary's report
Strathclyde Geoconservation Group
Geodiversity: Argyll and the Islands
Treasurer's report

Dr Morrison asked for any comments – there were none. He then thanked all Council Officers for the hard work and effort which they had expended during the Session.

5. NOMINATIONS AND ELECTION OF OFFICE BEARERS

The list of officers coming up for election with nominees, proposers and seconders had appeared in the newsletter and on the overhead screen. The President went over the list of those whose term of office comes to an end. Positions were then filled as follows :

Position	Nominee	Proposer	Seconder
Vice President	N. Clark	C. Burton	W. Gray
Membership Sec	C. Forrest	J Morrison	N. Clark
Librarian	B. Diamond	C Burton	R. Bryce
Day Excursion	R. Bryce*	J Morrison	C. Forrest
Minutes Secretary	vacant**		
Junior rep	M Staitis*	D. Webster	W. Gray
SJG Editor	C Braithwaite*	J Morrison	M Donnelly
SJG Editor	B Bell*	J Morrison	N. Clark
Ordinary	Ian Veitch	R Bryce	C Forrest.
Members	A Ainsworth	C Forrest	R Bryce.
	I Millar	M Cummings	J Morrison.
Independent Examiner	I Anderson*	B. Browne	M Donnelly

Notes:
* denotes retiring Officer willing to stand again
** M Donnelly and B Diamond have agreed to share taking the Council minutes until April 2018, but a new Officer is sought to commence duties from Sept 2018

All nominees were successfully elected.

6. Lecture

There being no further business Dr Morrison then introduced Professor Stephen Daly from University College Dublin, to speak on "Palaeoproterozoic terrane accretion on the Celtic fringe of the Nuna (Columbia) Supercontinent."

Item 4: Reports

a. President's Report

It is now nearly the end of the third and final year of my term as President and I would start by thanking the members for their continuing support. Without the membership, there would be no Geological Society of Glasgow and in the thirty-odd years I have been associated with the Society, I have been struck by the continuing interest and enthusiasm of the members.

A subset of the membership - the Council - are responsible for running the Society as best they can for the benefit of members. This is a two-way process, as due to age and human frailty, the Council needs to be constantly topped up with new blood. I would encourage any of you who feel that they could make a contribution to come forward. For example, we need three members of Council right now.

We have been fortunate in recent years in that some of our newer Council members have made notable contributions in relatively short time. For example, David Webster, who replaced me as Meetings Secretary has also become active in Publications and has participated in efforts to try to improve the unfortunate situation at Fossil Grove. Campbell Forrest, who took over at short notice as Membership Secretary has also become a Trustee for Fossil Grove. I will say a few words about the work of some other Council members at the AGM on 13 December. The day and weekend field excursions are enjoyed by many members and thanks are due to Roy and Maggie for the effort they put into the arrangement and running of these trips.

The Society has long had a concern about the state of Fossil Grove and Margaret Greene in particular has made efforts over a sustained period. Our current Secretary, Walter Semple, became interested in Fossil Grove – a site of international significance – some three years ago and had managed to effect significant changes in the Fossil Grove Trust. He has been ably supported by David Webster and Campbell Forrest, who are now also on the Trust.

Other recent activities of GSG Council are a review of publications, which had been somewhat neglected by the Society for a time and a subcommittee is trying to rectify this, especially in the preparation of a new 'Glasgow Guide' and in the use of new production and printing techniques. With our sister society in Edinburgh, discussions are taking place to develop a "Scottish Geology Trust" which could raise funds for Scotttish geological projects.

Jim Morrison

b. Meetings Secretary's Report

First up on the 12th October was Professor Peter Doyle, a geologist who specialises in battlefield geology and he gave us an intriguing insight into the geology of the Western Front.

9th November was 'whodunnit' night when we welcomed Professor Lorna Dawson from the James Hutton Institute, Aberdeen who talked about her speciality - soil forensics.

Lorna has advised many of the 'noir'-type detective series on TV and showed a video clip from the BBC 'One Show' where she successfully identified the exact location of mud on a welly boot from its clay and mafic mineralogy.

Our speaker for the 14th December lecture was Professor Stephen Daly from UCD who gave us a talk on the Palaeoproterozoic evolution of the Nuna/Columbia margin - i.e the late stages of the Lewisian, the Rhinns Complex and other Palaoeproterozoic rocks in Ireland and Rockall.

On the 11th January we thanked society member and past Hon. Sec. Dr. Simon Cuthbert from the University of the West of Scotland for stepping in at short notice to give us a very interesting talk on 'Venus – behind the veil'

We welcomed our well-known colleague Dr. Roger Anderton on the 8th February where he told us all about the sea-bed geology of the Firth of Lorne.

Our colleagues from the Edinburgh Geological Society hosting the Joint Celebrity Lecture and awarded their C.T. Clough Medal to Professor Bob Holdsworth, of University of Durham, who gave a talk entitled 'Cracked and full of sand: insights into the development of fractured basement reservoirs west of Shetland' on the 21st February in Edinburgh.

On the 8th March we welcome Dr. Nick Tosca from Oxford University who gave us a lecture on Precambrian ocean chemistry and new perspectives on the environmental backdrop to early life concentrating in particular on banded iron formations.

On the 12th April we presented our T. Neville George Medal for services to stratigraphy to Dr. Tony Spencer for his work on Precambrian glaciations - in particular for his detailed study of the Port Askaig Tillite on Islay and the Garvellachs - which was the subject of his fascinating lecture to us.

Finally, we had our usual Members' Night on 10th May. One of the short talks was given by students from Glasgow University's Remote Islands Expedition 2017, where they told us about their various integrated geological and biological projects on Islay. Other talks were from Allan Jack on the Jabal Sayid Copper Mine and Margaret Greene on the Shaping the Landscape Exhibition at New Lanark and David Degan on moon-rock analogues.

David Webster

c. Day Excursion Secretary's Report

The day excursions program started on 2nd June with a trip to Muirsheil Country Park with 15 participants. Fine weather meant that some of the party took the high road through a kilometre of heather to visit a barite outcrop near the top of the hills while the more sensible took the low road (which was actually a road) to meet us at the abandoned barite mine. I hadn't realised there was a wilderness area so close to Glasgow – well worth a visit if only for the walk. Our leader on the day was Dr Iain Allison.

The next excursion was on 9th June. This was a follow on to last year's trip to Comrie when we ran out of time to visit all the planned sites. Glen Lednock is one of these marvellous places in Scotland where you can view rocks from several different geological

events within metres of each other. The weather was kind enough to wait until we got back on the bus before torrential rain forced us to head to the Famous Grouse Visitor Centre in Crieff to round off the day. On this trip there were 16 participants led by Simon Cuthbert.

Trip number three was our joint excursion with the Edinburgh Geological Society on 30th June. Clear blue skies all day meant we could fully enjoy all the sights and sites we visited. We started off with a walk through Kinnoull Hill Woodland Park which offered panoramic views over the River Tay from the cliffs. We then moved on to Quarrymill Woodland Park. After lunch we toured the building stones of Perth then had an excellent joint High Tea with our Edinburgh colleagues. Many thanks to Con Gillen for coping with such a large party of 15 GSG members and 16 ESG folk.

The fourth field trip was on 18th August to visit Spireslack Quarry with 15 members. This recently abandoned quarry offers an amazing opportunity to view a complete 1 kilometre exposure which would form a wonderful geological education site. Sadly its remote location and the expense involved in making it safe for general public visitation means that this is unlikely to happen. The site is truly impressive but on the day we were forced to cut the visit short due to high winds and heavy rain. Many thanks to Graham Leslie from Edinburgh BGS for his informative talk on the history and possible future of the former open cast coal mine.

In a slightly different vein, our next excursion on 22nd August was to accept an invitation to visit Derek Fabel's laboratory at the Scottish Universities Environmental Research Centre facility in East Kilbride. Here the 11 participants got a chance to see the 5MV Tandem Accelerator which enables Derek and his team to establish the age of rock samples with astonishing accuracy.

Con Gillan was kind enough to offer to lead two day excursions again this year so on 8th September we met him at the Beecraigs Visitor centre outside Bathgate to see a dyke and Carboniferous Limestone. Then we drove up to Cairnpapple Hill and the Knock via the Witch Craig geology wall. Then on to Petershill Reserve to see some fossiliferous reef limestone. There were 15 participants on this trip.

As ever, could I thank everybody who joined us on the excursions, without your participation we would not be able to make these trips happen.

Roy Bryce

d. Residential Excursion Secretary's Report

1. Raasay – Fri 27th to Mon 30th May 2018

Leader – Dr Brian Bell, University of Glasgow: 18 participants

2. Aberdeenshire – Fri 14th to Mon 17th Sept 2018.

Leader – Dr Con Gillen. 18 participants

Both trips were very successful.

In Raasay, where we stayed in Raasay House, we had wall-to-wall sunshine and blue skies for the whole weekend. For Aberdeenshire, we were spread between two B & B's in

Stonehaven and again the weather was good. Both trips provided excellent geology and scenery, such that everyone learned a great deal, and visited numerous sites that were completely new to us all. On each trip, travel was by shared private cars and volunteers were 'persuaded' to write a half day report, providing 6/7 reports for each trip.

Maggie Donnelly

e. Librarian's Report

No report available at time of printing.

f. Publications Officer's Report

Sales were from a simplified stock list after rationalisation by devaluation of inactive stock. In house sales were reduced but The Madiera Guide sold 11 copies by post with payment via PayPal.

Payment has been received from The Edinburgh Geological Society for our share of sales of the Moine guide this year from stock that we had already written off on our Balance Sheet.

We have paid £1183.50 for 25% of a reprint of 500 copies of the Moine Guide. This now appears on our stock list as 125 copies valued at £9.50 each totalling £1187.50p. The stock of 500 copies is to be held centrally by The National Museums of Scotland where most sales take place. The stock is owned in the ratio 25:25:50 by ourselves, Edinburgh Geological Society and National Museums of Scotland.

Ben Browne for Bob Diamond

g. Proceedings Editor's Report

Session 159 proceedings took a bit longer than usual to prepare due to the great success and popularity of the Lochaber trip which had to be run twice to accommodate the record number of participants. There were, therefore, three residential trips as well as the day trips to be recorded along with all the council officers' reports Many thanks are due to all who took part in the reporting and the production of excellent photographs. All copies were distributed in good time and the contents have been posted on the website thanks to Bill Gray.

Mina Cummings

h. Scottish Journal of Geology Editors' Report

The Journal remains hampered by the low level of submissions. Although these have increased in the last three years from 11 in 2016 to 20 in 2018, the number of papers accepted shows only a slight increase, from 7 to 8. The explanation for this disparity is simple and may reflect the greater exposure and success of the Journal online. Most of the 13 papers rejected have been submissions from overseas readers who have failed to follow the advice offered on our website and sent articles on topics with no relationship to the Geology of Scotland, however broadly we choose to draw the limits. No doubt

this will prompt some to argue that broadening the scope of the Journal would solve problems but in doing this we would compete with 4 or 5 other Journals in the UK, some of which are better resourced, and it would be unlikely that we would see any increase at all.

We are currently launching an initiative to encourage Postgraduate students to submit papers, offering to guide them through the learning process of first submissions. We have previously offered the same opportunity to members of the two societies who may not be professional geologists but are, nevertheless, expert on some aspect or area of particular interest to them. The time between submission and publication online is steadily reducing but it is difficult to hurry the peer review process. Reviewers are not paid and have to fit in reviews with their other work.

We continue to attract papers on a wide range of topics. The most read and discussed in the last year, are by Paige de Polo and colleagues on newly discovered sauropod trackways on Skye; Martin Whyte's paper on the mating tracks of a giant millipede in Fife; work by Maarten Krabbendam and colleagues on the evolution of the Precambrian Proto-Moine Knappe in Glenelg; a study by Liam Bullock and colleagues on pyrite genesis and selenium enrichment in Ayrshire; a paper by Michael Newman on Middle Devonian fish in Shetland; and work by Tang and colleagues on the petrography of Upper Devonian sandstones on Orkney.

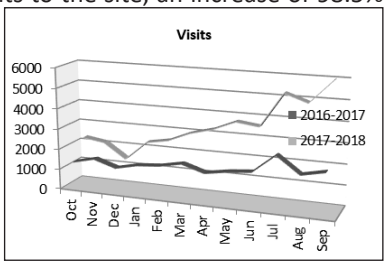
Colin Braithwaite

i. Website Report

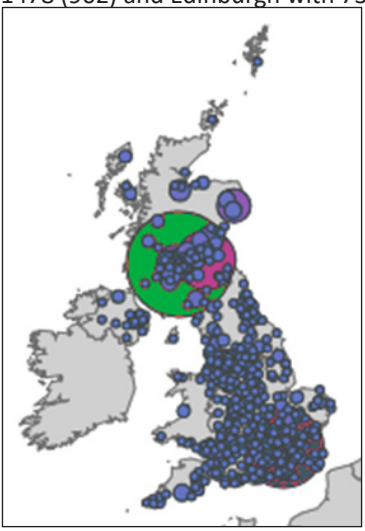
The website continued to be an important platform for promoting the society during Session 160. The Lectures and Excursions sections publicised the society's current activities to members and non-members alike, while the News section contained items of general geological interest as well as ones of immediate relevance to the society. Work was also carried out to increase the number and quality of the photos on the website's slide show and to enhance the geological information in the captions. 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 Anniversaries page of the Archive section. (Material from previous anniversary years is retained in a document which can be viewed through a link on the website.) The Anniversaries section is well worth exploring for the insight it gives into the society's history and for the wealth of fascinating historical material it contains. Our thanks are due to the society's honorary archivist Margaret Anderson for the research she carries out to produce this material in this section.

The website had a minor upgrade in 2014 but is now about to undergo a major upgrade, which is aimed at producing a "responsive" site which will adjust its display to suit the type of device that is being used to view it. The upgraded site will therefore look a lot better on phones and tablets than the present site does. The company that hosts the website is currently working on the new design, and the target date for the upgraded site to go live is January 2019

The traffic to the website has increased steadily since the website was launched in January 2011. In Session 160 there were 40245 visits to the site, an increase of 98.5% over the total for the previous session (20274). The number of visitors, as opposed to visits, was 34441, an increase of 108.5% over the previous session's total (16515). The chart shows the number of visits each month for Sessions 160 (2017-2018) and 159 (2016-2017). The increase in visits reflects increased traffic both from the UK and from abroad, but the majority of the increase was in visits from abroad. The number of visits from the UK in Session 160 was 10940, which was 27.2% of the total visits and an increase of 29.7% over the UK visits for Session 159 (8436). Outside the UK, the three most productive countries were the Philippines with 8072 visits (3443 in the previous session), the USA with 5754 (2328) and India with 3957 (1417). Within the UK, Scotland accounted for 6049 visits (5115 in Session 159), England for 4571 (3117), Wales for 167 (123) and Northern Ireland for 143 (72).



The map shows the amount of traffic from cities within the UK. Glasgow was the most productive city, with 2470 visits (2251 in the previous session), followed by London with 1478 (962) and Edinburgh with 731 (519).



The most popular part of the website was again the Local Rocks section, with the Rock-forming Minerals page accounting for 16.2% of pageviews, followed by the Metamorphic Rocks page (12.6%), the Rock Cycle page (12.3%), the Igneous Rocks page (5.6%) and the Scottish Fossils page (2.0%). Other popular pages were the website's Home page (8.3%), the Arthur Holmes page (2.3%), the Lectures page (1.6%) and the Excursions page (1.5%). By far the most productive source of traffic to the website was Google, which was responsible for 32600 visits (15390 in the previous session). The next most productive was direct logons to the website, which produced 4888 (3151) visits, while the search engines Bing and Yahoo produced 711 (490) and 145 (136) visits respectively. The majority of the remaining visits resulted from referrals from other websites. The most productive source of referrals was Facebook (280 this session compared to 148 last session), followed by scottishgeology.com (100 compared to 21), and thecampsies.co.uk website (90 compared to 96).

In addition to the website, the society uses its Facebook page and Twitter account to engage with the public. The Facebook page contains features of general geological interest as well as information about the society and its forthcoming events. The most

popular recent posts on the page relate to the discovery of dinosaur footprints near Inverness and the associated crowd-funding project, with 240 people reached; the award of books to Dr Chris Burton for his 44 years as society librarian, with 168 people reached; and the largest UK gold nugget found in Scotland, with 124 people reached. In addition, several inquiries for the identification of rocks, minerals and fossils have arrived via the page. If you have a Facebook account, or use other social media, please "like" and share any society posts that you find particularly interesting.

The society's Twitter account (@GeolSocGlasgow) has gradually being gaining in popularity and now has 31 followers. If you have a Twitter account, please follow us and retweet any of our tweets that you like.

In my role as Webmaster I am assisted by three society members who join me in the website working group: Neil Clark, Maggie McCallum and Maggie Donnelly. This group meets regularly to discuss the development of the website and we are currently concentrating on the requirements for the upgrade of the site. I am grateful to all three for their continuing support. The website requires a continuing input of news items and event details to keep it fresh and topical. I am grateful to society members who have provided such material in the past and encourage all members to continue to send relevant articles and information to web@gsocg.org

Bill Gray

j. Membership Secretary's Report

Although the total membership numbers show a small increase over the previous year, a number of lapsed/terminated memberships had not been formalised at the year end, so the total is slightly inflated, and will balance out very close to the previous year.

	At end Session 160 (30 Sep 2018)	At end Session 159 (30 Sep 2017)
Honorary Members	5	5
Ordinary Members	256	246
Associate Members	70	68
Junior Members	18	13
TOTAL Members	349	332
New Members	18	23
Memberships Closed	1	25

Campbell Forrest

k. Strathclyde Geoconservation Group Report

The office bearers have not changed and Margaret Greene MG remains chairperson, David Hamilton as Treasurer and Barbara BalfourBB as Secretary. Maggie McCallum is in charge of website matters and Margaret Anderson in charge of archives. Usually about 8 to 10 members attend the meetings.

Leaflets/Booklets/Geology walks

Preparation for the Necropolis booklet for printing is nearly complete. Costing has yet to be determined. There is a possibility of SGG making a booklet on the geology of Mugdock Country Park but preliminary talks with the park ranger are still to take place.

MG led a successful walk on 12th September 2108, with 16 participants, as part of the program for Glasgow Doors Open. Ian Allison IA also attended.

Also in connection with Doors Open, David Webster DW gave talks and guided walks to the quarry. Ian Allison, Allison Drummond AD and MG also attended helping with fossil rubbings and offering information.

Local Authorities:-

South Lanarkshire: Two members of SGG attended a meeting on 8th November 2017 to find out about the Clyde & Avon Valley Landscape Partnership Geology Exhibition at New Lanark. MG attended the launch of the exhibition on 22nd February 2018. Unfortunately the funding for CAVLP has come to an end. MG gave a Powerpoint presentation on the subject on GSG Members' Night, 10th May and wrote up a report in order that David Webster might include it in Newsletter 160/4. Paul Carter PC and Mike Browne MB are now doing site assessments in South Lanarkshire and have asked for help from SGG with typing.

North Lanarkshire: Paul Carter and Mike Browne completed the assessments of geological sites in North Lanarkshire (six years of field work). Several members of SGG typed up the handwritten assessments and Mike Browne handed the final tranche to North Lanarkshire Council for incorporation into their SINCs (Sites of Importance for Nature Conservation). AD and BB typed up Paul Carter's hand written North Lanarkshire Council Geodiversity Audit. Mike Browne added photos etc to the document and then it will be passed to the Biodiversity of NLC. This is a valuable amount of work that PC and MB had put into this document which includes many good descriptions of places of geological interest to visit within North Lanarkshire. They hope to make a booklet from some of the material with the help of NLC.MG typed a paper on glaciation in North Lanarkshire that PC has written. Paul Carter continues to lead walks and run geology activities for schools etc.

Renfrewshire: MG along with Dr Simon Cuthbert are assessing geological sites in Renfrewshire. Ultimately these will be incorporated into the Local Biodiversity Action Plan. MG wrote about a recent Geol. Soc. excursion (led by IA) to Mursheil Park with the help of information from Dr Chris Burton CB. MG went to a Local Biodiversity Action Plan (LBAP) all Renfrewshire meeting on 27th June. MG has submitted 4 sites and to look at another 5 with Dr Simon Cuthbert. There were also reports from East Renfrewshire and Inverclyde. There is no money to do a LBAP but Renfrewshire will make sure geology is in the Local Plan.

Inverclyde: some sites assessed by Dr Chris Burton CB and got an enquiry from the Planning Officer, Inverclyde.

East Dunbartonshire: SL had been asked to comment about the planting of trees on some land at Craigmaddie Muir in connection with Craigmaddie Muir Woodland Creation

Group. Her recommendation, based on East Dunbartonshire Geodiversity Audit, is that it is important that planting be limited to North of NS 767 in order to maintain the significant rock features such as glacial features, and exposures of Douglas Muir Quartz Conglomerate and the Craigmaddie Muir Sandstone, exhibiting sedimentary features, within the lower part of the Lawmuir Formation.

North Ayrshire: MG attended the North Ayrshire LBAP meeting in Largs. She reported that Garnock Valley Programme had received Lottery Funding for 3 years. However the Biodiversity Officer had not considered bringing geology into the programme. CB has given MG a number of geological sites of interest in North Ayrshire.

Fossil Grove

DW who is a Trustee of Fossil Grove and also a SGG member is keeping the SGG informed of any developments regarding Fossil Grove. He is also actively working to improve the conditions at FG. IA and DW have written an excursion guide to FG quarry which is now available for purchase. A revised version of the SGG leaflet is being printed. One volunteer, AD from SGG has been liaising with the visitors to FG over several Sundays, finding out what they think of the fossils and the condition they are kept in. Positive for the fossils and negative for the conditions. FG was open on 31st March till 21st October 2018. Matthew Staitis, the student representative to Council and also a member of SGG, gave a presentation to undergraduates about FG with some interest from the audience. He thought the profile of FG could be raised to undergraduates and had mentioned it to Prof. Bell. It is hoped that GU geology undergrads may get involved in mapping exercises on newly exposed surfaces at the quarry now that LES have cleared the vegetation. DW wrote a report, summarising the progress and problems in monitoring the environmental conditions within the Fossil House, the status of the lighting and other issues, which was circulated to SGG members.

Dippy the diplodocus's visit to Kelvingrove Museum, Glasgow

Ann Ainsworth AA, Curator, Glasgow Museums Resource Centre, attended the SGG meeting of 22nd March 2018. AA invited SGG to join in the events to celebrate Dippy, the diplodocus fossil, which be displayed at Kelvingrove from 21st January to 5th May 2019. There will be an 'information' day from 11.00am-4.00pm on February 16th 2019 and SGG will have a stall with leaflets and information about SGG. There is also an 'activity' day on 6th April where SGG will have activities especially for children as many are expected. Preparation for these events are well in hand.

Scottish Geodiversity Forum:-

Some SGG members attended the Charter Launch at Dynamic Earth, Edinburgh on 16th November 2017 and the AGM held at the Engine Shed (Historic Environment Scotland) Stirling on 21st February 2018. Thus SGG members are kept informed of geology news, events and activities in Scotland. MG attended the Charter meeting on Wednesday 30 May. MG had an article on the New Lanark exhibition in the autumn Charter newsletter .

Margaret Greene

l. Geodiversity: Argyll and the Islands Report

GAI is making one administrative change, by putting back its AGM from December to March. The group find it difficult to set a meeting in December that is not liable to postponement because of weather (and thus ferry cancellations), availability near Christmas and other factors. Our constitution allows up to 15 months between AGMs.

This year a start has been made on developing a Lorn Islands Geological Trail. The Lorn Islands Partnership (between the four island community trusts if Easdale, Kerrera, Lismore and Luing) has already developed a general tourist trail leaflet encouraging visitors to Oban and Lorn to take day trips to each island. The plan is to develop associated trail leaflets for different interests, and the first of these hopefully will be the geology trail. A start was made in June when Jim Blair kindly led a field excursion under the auspices of the Oban U3A Geology group to Kerrera, unfortunately in appalling weather conditions. Luing and Easdale geology is already well covered in John Sedgwick's publication, The Geology of Seil and Easdale, copies of which may be purchased at the Atlantic Islands Centre on Luing. The geology of Lismore is of course very different, and that contrast will be part of the trail.

A*lastair Fleming*

m. Treasurer's Report

The Income/Expenditure Account and the Balance Sheet are shown below. These have now been checked and signed-off by Ian Anderson, Independent Examiner.

Notes to the Accounts

1. Membership subscriptions and Gift Aid are slightly reduced.
2. National Saving still pays a minimal interest on Bond and Investment accounts
3. After a major reassessment of stock last year Publications sales simplified but a little reduced. We have contributed 25% of the cost of a reprint of 500 copies of the Moine Guide.
4. Both Saturday and Weekend Excursions have returned a modest surplus.
5. This was the last of three years at an agreed rate for Room Hire from the University. We now have an agreement to continue at this same rate for one further year.
6. Other costs of meetings are increased above last year's low level.
7. Postage of our Proceedings was reduced by a reduction in their weight.
8. Costs of the Newsletter were reduced by a change of printer.
9. The Library paid only one of two journal subscriptions and no invoice yet for Down to Earth.
10. Public Liability Insurance costs remain essentially unchanged.
11. There were minor costs in updating the website but a major updating is planned for the near future at an estimated cost of £6,000.
12. The restricted TN George and Brian Bluck Funds continue to pay out to their intended purposes.

13. We have been unable to progress on the Conoco-Philips prize. My proposal is to distribute the remaining funds to the three participating Societies. We are attempting to get a note of agreement to this from Conoco-Philips.

14. The apparent significant reduction in our Surplus from £1,500 to £570 reflects the fact that investment dividends are now held within the newly created Endowment Fund.

15. We have undertaken a significant reorganisation of our investments and established an Endowment Fund consisting of investments now held by a broker with the intention of drawing dividends to be used for our charitable purposes whilst hopefully maintaining their real value. What was presented on last year's Balance Sheet as a Common Fund is now presented on this year's Balance Sheet as a separate Member's and an Endowment Fund. The latter has received £2,936 in dividends from reorganised investments compared to £636 last year. However, only £1,050 have been distributed in sponsorship to Lochaber Geopark, the Scottish Geodiversity Forum and the Friends of Hugh Miller.

16. It should be noted that the cash holdings outside the Endowment fund are £25,775 of which £9,690 are assigned to restricted funds leaving £16,085 as Member's Fund. This is just twice the current annual expenditure of £8,100.

Ben Browne

THE GEOLOGICAL SOCIETY OF GLASGOW

Income and Expenditure Account for year ending 30th September 2018

			Session 160 2017 - 2018		*Session 159 2016 - 2017*	
Income						
1. Subscriptions						
Received during year			6580.25		*7332*	
Deduct paid in advance this year			-181.25		*-324*	
Add received in advance last year			324.32	6,723.32	*241*	*7249*
2. Investment Income						
Dividends: see under Endowment Fund					636	
National Savings				131.64	143	779
3. Gift aid				1,184.86		1300
4. Publications	In house	net surplus	112.08		*422*	
	Moine Guide	Revenue	75.38	187.46	*250*	
7. Saturday excursions		net surplus		97.33		*-38*
8. Week end excursions	Raasay	net surplus	17.00			
	Stonehaven	net surplus	30.50	47.50		*114*
9. Donations (coffee collections & personal)				275.57		*328*
10. Bank Charges net refund				24.83		
Total income				**8,672.51**		***9852***
Expenditure						
1. Meetings incl speakers expenses, etc			1581.68		*633*	
Room Hire			3663.00	5,244.68	*3639*	*4272*
2. Publication and postage of Proceedings				534.66		*769*
3. Strathclyde Geoconservation				0.00		*200*
4. Library and Down to Earth				270.00		*725*
5. Affiliation fees				40.00		*90*
6. Insurance				202.72		*202*
7. Website	Maintenance		374.38		*360*	
	Upgrade		54.00	428.38	*79*	*439*
8. Admin costs - postage, stationery, etc						
Newsletter				788.84	*707*	
Stationary				4.69	*3*	
Membership Secretary(including new software)				328.89	*430*	
Treasurer				57.98	*7*	*1147*
9. Presentation for long service				200.00		
Total expenditure				**8,100.84**		***8346***
Surplus				**571.67**	*Surplus*	**1506**

THE GEOLOGICAL SOCIETY OF GLASGOW

Balance Sheet as at 30th September 2018

The Common Fund of the Balance Sheet 159 of £79,088.68 is separated into Members Fund £20,048.18 and Endowment Fund £59,040.50

			Session 160 2017 - 2018		Session 159 2016 - 2017	
Members' Funds						
Balance as at 30/09/2017			20,048.18			
Add Surplus for the year			571.67		Surplus 1506	
Member's Fund as at 30th September 2017				20,619.85		
Restricted Funds	TN George fund		380.00			
	less engraving costs		40.00	340.00		
	Brian Bluck fund at 30/9/17		8,500.00			
	less prize 2018		500.00	8,000.00		
	Conoco-Phillips fund			1,350.00		
Total non endowment Funds				30,309.85		
Represented by						
Current assets						
Cash at Bank						
Royal Bank of Scotland		9,892.79				
Less owing to Endowment fund		257.06	9,635.73		10579	
National Savings Income Bond			12,000.00		12000	
National Savings Investment Account			4,140.13	25,775.86	4008	26587
Cash in hand						
Publications Officer, Bob Diamond				101.04		
WE Excursion sec				192.14		
Stock of Publications	In house			2,854.97		3008
	Moine Guide part of stock held by Nat Mus Scot			1,187.50		
Add Debtors	Gift Aid from HMRC			1,184.86		
Less Liability				31,296.37		
	Subs paid in advance		181.25			324
	Outstanding payments		805.27	986.52		
Net assets				30,309.85		

Endowment Fund

At 30.9.17 this consisted of Investmets valued £59,010.02 and cash £30.48 totalling £59,040.50.

At 30.9.17	Cash at Broker			30.48
	Add interest retained at broker		2,678.85	
	less fees	138.00		
	to Lochaber Geopark	500.00		
	to Scottish Geodiversity Forum	500.00		
	to Friends of Hugh Miller	50.00	1,188.00	1,490.85
At 30.9.18	Cash at Broker			1,521.33
	Interest retained in RBS account			257.06
	Total cash in Endowment Fund			1,778.39

At 30.9.17	*Valuation of investment*	*59,010.02*	*plus cash value*	*59,040.50*
	add appreciation	*455.98*		
At 30.9.18	*Valuation of investment*	*59,466.00*	*plus cash value*	*61,244.39*

The financial statements were approved on 20/11/2018 by the Trustees and signed on their behalf by

Signed as approved by the Trustees ..... Dr J Morrison *(President)*

Signed by the Independent Examiner ..... Dr Ian Anderson

Item 5: Council Elections

The offices that have come up for election are listed here along with the proposed nominations:

Position	Nominee	Proposed by	Seconded by
President	Neil Clark	W Semple	W Gray
Vice President	Brian Bell*	D Webster	W Gray
Vice President	Ben Browne*	W Semple	R Bryce
Vice President	Jim Morrison	B Bell	N Clark
Treasurer	Ian Veitch	B Browne	C Forrest
Meetings Secretary	David Webster*	M Donnelly	M Statis
Junior Representative	Matthew Staitis*	D Webster	R Bryce
Minutes Secretary	Walter Semple	D Webster	M Donnelly
Newsletter Coordinator	David Webster*	Neil Clark	R Bryce
Ordinary Member (x3)	Vacant+		
Editor of SJG	Brian Bell*	M Donnelly	C Forrest
Editor of SJG	Colin Braithwaite*	M Donnelly	C Forrest
Independent Examiner	Ian Anderson*	M Anderson	W Gray

Notes:

* Denotes retiring postholder willing to stand again

+ The Council can have up to six ordinary members. Currently there are three. If you are willing to join the Council as an ordinary member then please get in touch.

Retirees:

Emma Fairley has stood down as Website Coordinator. The post will not be replaced.

Continuing Officers:

The following continue in office: **Walter Semple** - Hon. Secretary, **Campbell Forrest** - Membership Secretary, **Bob Diamond** - Publications Officer and Librarian, **Mina Cummings** - Proceedings Editor, **Bill Gray** - Webmaster, **Neil Clark** - Website consultant, **Roy Bryce** - Day Excursions Secretary, **Maggie Donnelly** - Residential Excursion Secretary, **Simon Cuthbert -** Ordinary Member, **Ian Millar** - Ordinary Member, **Ann Ainsworth** Ordinary Member, **Margaret Anderson**, Assistant Librarian/Archivist