Presidential Report for the 199th Session of the Society (2019-20)

Dr Alison Morrison-Low, President

This is the **President's Report** for the 199th Session of the Royal Scottish Society of Arts. My report concerns the objectives and activities of the Society from this time last year, and once again, what an interesting and busy time it has been. Of course, activity has also been truncated from 22 March of this year by the effects of the pandemic, and I shall take note of that below.

As you know, the Society was formed almost two hundred years ago for 'the encouragement of the useful arts in Scotland', which these days is taken to mean that we are concerned with advances in science, technology, engineering and manufacture – and indeed, our strap line is 'showcasing Scotland's Science, Technology and Innovation'. Since last June, the Society has undertaken two visits, arranged a lecture series of 7 talks (with 2 postponed), awarded medals and considered the Society's future at three Council meetings (including one virtual meeting by Zoom) – for which I must thank Councillors, the Vice- Presidents, Office-holders and especially the Secretary for keeping the Society on track. Also many thanks from all of us to the Programme Secretary, Brigadier Ian Gardiner, for all the splendid efforts put into the programme. We are most grateful to you all. I'd also like to thank you, the Fellows, for supporting what we do by turning up on (mostly) the fourth Monday of the month to hear about new and recent aspects of Scottish scientific developments.

Sadly, I have to report the loss of one of our eminent Honorary Fellows, Dr John Brown, OBE, FRSE, 10th Astronomer Royal for Scotland, who died suddenly at the age of 72 on 16 November 2019. He was a longstanding supporter of the Society and will be much missed.

Last year, Council formed a small sub-committee, to work out how we might celebrate our forthcoming Bicentenary: 200 years of 'showcasing Scotland's Science, Technology and Innovation' should not go unmarked. In no particular order, some of the events that we hope to undertake are:

- we plan to have special 'RSSA 200' stationery produced for the event;

- lapel badges to be made available to Fellows with either Minerva's head or the Society's coat of arms;
- we plan to get the Society's 19 volumes of *Transactions* – published between 1841 and 1927 – digitised and made accessible on-line to both Society Fellows and the general public. We continue to discuss this with the National Library of Scotland, who may be prepared to do this for free, and support the project on their website.
- The award of an RSSA Bicentenary Prize: this would be in the form of a travel scholarship to the value of £2500. Submissions would be invited from Scottish Universities.
- A Bicentenary Lunch, with an invitation to the Society's Patron HM The Queen: a celebratory lunch in the Upper part of the Signet Library to which our Patron will be invited in July 2020. It is understood that this might be delegated to another member of the Royal Family. Costings will need to be established but a figure of approximately £60 per person was envisaged. On the same day, the lower part of the Signet Library will be used to house an exhibition with invited displays from university departments that have provided lectures in the recent past.
- A Civic Reception: the Lord Provost's Office will be approached.
- The Society's Royal Charter (held in the National Library) is to be photographed and placed into a new, bespoke conservation-approved box, instead of being folded up in its small tin.
- The lecture series for the 200th Session, 2020-2021, will be very much the flavour of the current and immediate past series: but we hope to hold a day symposium in which invited speakers will discuss the future of their subjects – with perhaps an introduction showing where their discipline was 200 years ago.

At last year's AGM, this planning was very embryonic stage; the RSSA 200 subcommittee has met three times during the past year, and much of the agenda outlined above was moved forward. However, since 22 March 2020, progress has been frozen. Once 'normal life' in whatever guise it takes is resumed, I hope to keep you posted as to what is happening. For the moment, I should tell you more about what we have done during this past year.

The excursions began last June with a visit to the National Museums Scotland Collection Centre at 242 West Granton Road on Thursday 6 June, where we were shown around by various members of the Department of Science and Technology curatorial staff and the Engineering Conservation Department. 18 Fellows and their guests were able to view the vast amount of historic objects held there, ranging from steam-driven mechanical diggers, horse-drawn agricultural machinery, models of boats and ships, as well as early gramophones and computers, to name but a few. Only about ten percent of the collections is ever actually on display in the Museums at one time, and so there was a sense of adventure and discovery as we moved from room to room going round the site, as you never knew what was to be found around the next corner to be seen in the next bay. Disconcertingly, many of the items were ones that Fellows could remember in daily use in their younger days! Apart from the storage areas, we were able to visit the laboratories where conservation and restoration of engineering and scientific objects is undertaken. A major item undergoing treatment at the time of the visit was the optic from the Todhead lighthouse on the Aberdeenshire coast, which was constructed in 1897 by A. Henri-Lepaute of Paris, with a clockwork mechanism by John Milne of Edinburgh for the Northern Lighthouse Board.

The Society's second visit took place after the summer recess on Thursday 19 September when a group of Fellows and their guests made their way in the autumn sunshine to the National Museum of Flight at East Fortune, to be greeted by Dr Sam Alberti and members of staff. We were shown various areas of the historic airfield – which had been home to the R.34, the airship that had made the first east-to-west transatlantic flight just over one hundred years before. On 2 July 1919 Airship R.34 departed from East Fortune Airfield, landing on Long Island, New York 108 hours later. Used for military purposes in both World Wars, the site is full of historic reminders in the form of Nissen huts and aircraft hangers – now turned over to displays and storage. We were shown the stored collections of propellers and aircraft engines, as well as the displayed civil and fighting aircraft and associated material, culminating in the astonishing sight of the Concorde G-BOAA, the beautiful bird inside a hanger, dwarfing the people beneath. Again, we were impressed with the enthusiasm of our guides, just as we had been at the National Museums Collections Centre.

In September our 199th annual lecture series began. There were to be seven lectures, the first given by Professor George Barakos, Professor of Aerospace Sciences, University of Glasgow. Entitled ‘A New Beginning in Aerospace’, Professor Barakos looked forward to the electrification of flight that is now making an impact in all aspects of flying vehicles. This will allow the democratization of flight by opening the gates to personal aerial transportation. He forecast low-cost, autonomous, electric flying machines, providing an additional dimension to our mobility options. These same vehicles will be used to explore remote planets scanning the horizon for a new home for humankind. Our second speaker, Professor Jason Love of EaStCHEM School of Chemistry at the University of Edinburgh, delivered an enlightening talk on ‘Mining the Scrapheap’, which was about trying to provide a circular economy that is both environmentally benign and societally beneficial from redundant electronic items that use rarely-found elements from the periodic table. Our third absorbing presentation came from Dr Cat Hobaiter, Lecturer in Origins of Mind at the University of St Andrews, on ‘Gestural Origins: exploring the evolutionary origins of human language through great ape gesture’. This looked at the somewhat problematic history of human research into our close relatives, and what is currently being done and what this tells us about ourselves. Subsequently we heard from Professor David Manlove, of the School of Computing Science, University of Glasgow, on the increasingly relevant subject of ‘Designing algorithms for matching markets in healthcare’. He described algorithms developed at the University of Glasgow used by the NHS to solve two healthcare-related matching problems: the annual assignment of junior doctors to specific Scottish hospitals, and finding “kidney exchanges” between kidney patients and donors in the UK. Our final conventional presentation came from Simon Milne, MBE, Regius Keeper of the Royal Botanic Garden, Edinburgh, on ‘Around the Botanics in 350 Years’, a fascinating stroll through the history and scientific accomplishments of a dearly-loved public Edinburgh landmark, enjoyed by over a million visitors a year. Sadly, our sixth and seventh speakers were obliged to cancel their much-anticipated presentations. These were Professor Catherine Heymans, Professor of Astrophysics at the University of Edinburgh and Director of the German Centre for Cosmological Lensing, Ruhr Universitat Bochum, who was to speak about ‘The dark side of the Universe’, and Professor J. Murray Roberts, Head

of Changing Oceans Research Group, School of GeoSciences at the University of Edinburgh, who was to give us a glimpse into 'Understanding deep Atlantic ecosystems'. We hope very much that these last two presenters will be able to come to deliver their lectures at a future date. Despite these unforeseeable problems, I think you'll agree that Council suggested some extraordinary speakers, who gave some inspiring talks: and our thanks to Brigadier Ian Gardiner, Programme Secretary, for pulling it all together.

The Society has presented awards and medals since its earliest days, back in the 1820s. Our medallist, Kirkwoods, a family firm, moved from their premises in Albany Street about 18 months ago, and are now to be found – still flourishing – in an industrial unit off Leith Walk. We also, in our efforts to engage with younger people, have presented medals and book tokens to the student with the top marks in the Engineering Science Higher examination, and another to the winner with top marks in the Engineering Science Advanced Higher examination. These awards were presented at the 'Science and the Parliament' day, which this year was held by the Royal Society of Chemistry at Dynamic Earth on 20 November 2019, and the Secretary, Peter Jones, and I attended. Held around the theme 'Sustainability', the day was informed by presentations from Sheila Rowan, the Chief Scientific Officer for Scotland and Roseanna Cunningham, MSP, Cabinet Secretary for the Environment, Climate Change and Land Reform. It was good to see various MSPs engaging with such topics. Richard Lochhead, MSP, Minister for Higher Education, Further Education and Science presented the prizes to Gilleasbuig Peterson of Dollar Academy for top marks in Engineering Science Higher; and to Timothy Alan Brewis, of Robert Gordon's College, Aberdeen for top marks in the Engineering Science Advanced Higher (last year Timothy Brewis won the prize for top marks in the Engineering Science Higher).

I hope that the coming year, once we have come out of the shadow of Covid-19, will prove as interesting and as varied as the past: and thank you all again for your support. Additional thanks to Peter Stewart, who provides us with teas and coffees before each talk, and for the help of Pat Jones with this; and of course, our gratitude

goes to our Treasurer Graham Rule who also keeps us (and the lecturers) on the right track in this hall with microphones, projectors and compatible laptops. Thank you all.

Dr Alison Morrison-Low
President
29th June 2020