

Don's Diary¹

This article first appeared in CAM - the Cambridge Alumni Magazine – Issue 81 Easter 2017. Professor Marian Holness is Professor of Petrology and a Fellow of Trinity College.

One of my post-docs starts the term on maternity leave, and her son arrives in late January. With dogged determination she continues working from home as we put the finishing touches to a big paper. It is highly controversial, so we plan carefully to make sure there are no holes in our arguments and that the evidence is unassailable. A colleague who kindly reads it for us declares that there will be calls for our heads. We decide this is probably a good sign.

Lent is my heaviest teaching term. Some of the practical sessions are on Saturdays so I cheer us all up by bringing in chocolate biscuits. The practicals involve the use of the petrographic microscope, my main research tool: much of my life is spent staring down microscopes. This is such an important skill for geologists to master that I make sure I am present at all the sessions, even though it means that every lecture I give comes with an additional four hours in the lab.

In February, planning starts in earnest for a field trip to Greenland in August. My group will be collaborating with colleagues from the University of Exeter and the Danish Geological Survey. The Arctic is always logistically difficult, and the barren and empty east coast of Greenland is no exception. Our plan is to fly to a small regional airport and then charter a boat for the three-day trip up the coast, hoping for the best. Last time we tried this we were prostrate with seasickness for two days in mountainous seas before getting becalmed – and immobilised – in the sea-ice. We start to refine our kit list, focusing on fuel to stay warm and fed, Zodiacs – small inflatable boats – for transport, and an arsenal to protect us against polar bears. I organise a day's rifle training for the four Cambridge team members, and start negotiations with the University's insurers for search and rescue cover. I spend a few anxious days adding up our financial reserves: the remote Arctic is not a budget destination.

The term is broken up in forays to Liverpool, Bristol and Berlin. Talking to people in other departments can be really energising – outside the Cambridge bubble my ideas get challenged and robust discussions trigger fresh ideas and open up new research directions. At Liverpool I meet someone who tells me about some interesting igneous intrusions in Anglesey. The minute I get back to Cambridge I dig out the geological maps, search the literature and email everyone still alive who worked on these rocks. It turns out that two of the intrusions appear in one of the earliest ever geological maps, published in 1822 by the remarkable John Henslow (who was Professor of Mineralogy at Cambridge for a few years before become Professor of Botany and founding the Botanic Garden). It

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is impressive to see the extent to which he was able to decode the geology of Anglesey, decades before the invention of petrographic microscope, with neither a decent topographic map nor GPS. I suggest to my family that Anglesey would be a good place for our Easter holiday.

The term ends as I accompany a group of first years to Arran for their introduction to real rocks. The transition from lecture theatre to field can be a shock and their faces betray their lack of confidence when faced with their first outcrop. They don't yet have the experience to appreciate that the geology of Arran is extraordinary, with countless beautiful outcrops posing thought-provoking scientific problems. Gradually, these insecure novices realise that they do actually know enough to make sense of what they are seeing, and by the last day they've transformed into confident scientists, able to describe the 3D structure and geological history of the first area they have mapped themselves. It's immensely cheering to see such palpable returns on all the hard work that goes into teaching in Cambridge.



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