

The World's Deepest Hole

Reprinted with permission from *The Avenue*, the magazine for graduates and friends of the University of Glasgow (Vol. 11, pp. 12-13, January 1992).

David K Smythe
Professor of Geophysics

LESLEY and I stood in the buffet queue at the Academy of Science Hotel, Moscow. We were now on our own - no Russian guide, no Con to help us. I leafed through the phrase book, silently practising some essential phrases - some meat, two tomatoes please, and so on. A young man ahead of us was trying to order an omelette in sign language; I asked whether he was English (I meant to say, did he *speak* English). A familiar accent responded to this implicit insult, "No, I'm from Glasgow".

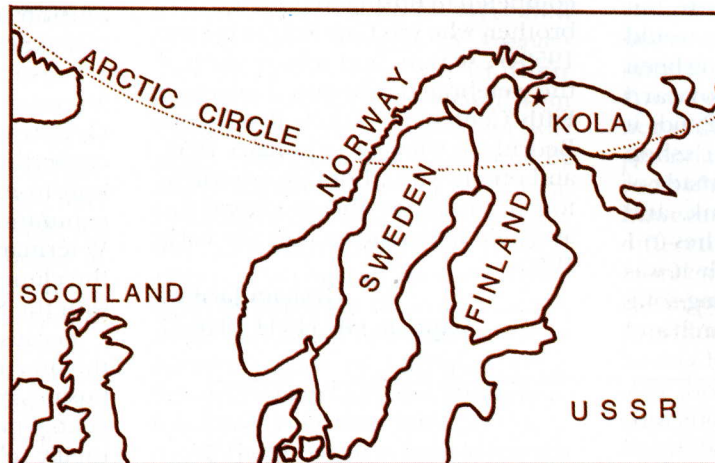
It was Colin McInnes, a research student from our very own *alma mater*. He was in Moscow to discuss putting into orbit a solar sail satellite with the Soviet Space Agency. He had flown out a few days previously, on 19 August the day of the coup, just as a Scottish tabloid newspaper featured on its front page the story of a Scot "bribing a taxi driver ... dashing to the airport to escape". Clearly the onward progress of international science is not to be impeded by minor details like counter-revolutions.

Lesley Dickie and I were headed for the Kola Peninsula in Arctic Russia, to see the world's deepest hole into the Earth. I was to finalise details of a multinational geophysical project to take place there early next year. Lesley, a Zoology undergraduate, had made a scale model of the huge drilling rig. The model sits on a ledge in a stairwell of the Geology & Applied Geology department, and its 12 kilometre long drill pipe is represented by a wire hanging down to the basement floor, three floors below. It gives a vivid impression of the scale of this feat of engineering. It was completed just in time to impress (we hope!) the Secretary of State for Scotland, Ian Lang, whom the Principal had invited to visit the University last June. One of my Russian colleagues, the Director of the Kola Science Centre, had also been so impressed by it that he had asked Lesley to make him another model and bring it to Kola to install in his institute, all expenses paid.

In Murmansk we met Con Gillen, who had arrived from Edinburgh *via* a geological conference in Finland. Con is another Glasgow graduate like myself, but graduating one year ahead in 1969. Not only did he get a first class Honours degree in Geology, but he speaks no less than 14 languages! He went on to do a PhD,

Professor of Geophysics at the University of Wyoming, who is in charge of the US contribution to the project. The fourth member of the partnership, aside from Scotland (and, of course, the Russians) is Norway, represented by Bergen University.

Finally, after three years of planning, we arrived at the location of our geophysical experiments, the SG-3 drill site, just three miles from the Norwegian border. It is near the ore-mining and smelting town of Zapolyarny, one of the major sources of pollution within the Arctic circle. The hole was begun as a scientific quest, over 20 years ago, to find the source of the mineralising fluids that give rise to the rich copper-nickel deposits of the Kola region. Coring all the way down - collecting end-to-end cylindrical samples of the rock being bored, rather than just grinding through it - is a slow process, but the Russians have amassed new and unique information about the nature of the Earth's crust. At 12,261 metres into



also at Glasgow, and has been visiting the Baltic region, including the Kola Peninsula, for many years. Only through his invaluable contacts and command of Russian (his first love among foreign languages) has our international project got off the ground. We also met Scott Smithson,

region. Coring all the way down - collecting end-to-end cylindrical samples of the rock being bored, rather than just grinding through it - is a slow process, but the Russians have amassed new and unique information about the nature of the Earth's crust. At 12,261 metres into



Glasgow scientists Colin, Lesley and Dave in Moscow just after the coup of August 1991, wearing their new Russian Republic badges.

