

Professor Edward Howel Francis, BSc, DSc, FRSE, FGS

31 May 1924 – 22 May 2014

Short, rugged, determined, and with a marvellously strong head of hair, Howel Francis stood out from the crowd. Born and brought up by his mother, the landlady of a public house in Cwmavon, South Wales, he noted that his childhood consisted of 'learning much about people, but little of science'. Inspired by his Port Talbot school teacher, W.J. Cosgrove, a keen amateur geologist, he entered the University College Swansea (now Swansea University) in 1942 to study Geology. Neville George was his professor. He was called up for military service after two years, commissioned in the Cheshire Regiment and served in the Mediterranean. He returned to complete his degree in geology in 1949 under Professor Duncan Leitch, George having been appointed to the Chair of Geology in Glasgow in 1947. Francis was appointed to the British Geological Survey at the Edinburgh office in 1949 and joined that great geological digs commune known by most geologists in Scotland as The Warren, run by the Misses Cameron at Mayfield Terrace. That's when our long friendship began in 1949.

Howel was initially dispatched by John Simpson, his District Geologist, to map Carboniferous rocks near Dollar. Geological Survey field geologists were then responsible for mapping both solid rocks and superficial sediments (i.e. unconsolidated and man-made materials). By contrast academic researchers tended to concentrate on a single field of research such as granites or fold structures. The result of his early mapping work is to be found in Geological Survey publications, especially the economic geology of the Fife and Clackmannan and the geology of the Stirling district. But the economy of the coalfields north of the Forth was bedevilled by associated Carboniferous volcanoes. Lava flows, red-hot ashes and intrusions burned the coals to be and destroyed the hopes of the planners. Glenrothes new-town, built on the economic promise of a viable coalmine, was one such casualty. Inevitably Francis became heavily involved in the volcanic and intrusive igneous activity which so affected the coal mining strata. In spite of daily geological problems he insisted that lunch was to be enjoyed, so wherever possible he downed his hammer, clinometer and rucksack, got into his car and drove to the Crusoe Hotel in Lower Largo where he could be assured of a splendid seafood lunch. And only the week before he died he asked his daughter, Susan, if the food at the hotel was still up to standard! Howel was a real geological gourmand!

Geological Survey working practice then was to note everything that was or might be relevant to geological work in Fife so Howel developed a broad expertise in coal mining, water supply, foundations for roads, bridges including the Forth Bridge, buildings, dams and reservoirs. The hunt for economic coals in Fife and Stirling meant that he had the great advantage of examining both surface outcrops and drill cores. He was thus able to build up a brilliant three-dimensional picture of volcanoes erupting, burning and in turn being buried in Carboniferous sediments and forests. He was able to work out the interaction of volcanic activity, sediment and shallow seas, sadly rarely to the advantage of the National Coal Board. He advised annually on barytes mining in Scotland – the heavy spar used in drilling and reported on copper-silver-cobalt-barytes mineralisation in the Ochil Hills and lead-zinc mineralization in the Leadhills-Wanlockhead district of the Southern Uplands. Outside his Survey duties Francis pursued his own research interests. He published his undergraduate work on the Rhaetic rocks in South Wales, and pursued out-of-Survey hours his research on volcanoes and associated rocks in Fife.

Howel certainly got the balance right between work and play when he first worked in Fife. Initially he stayed at the home of the Scottish rugby internationalist Moffat Pender, near Dollar. In the summer field -season he played cricket for Clackmannan and in the winter, back in the office-routine of the Geological Survey in Grange Terrace, Edinburgh, he kept fit by turning out for

Edinburgh Wanderers Rugby Club. He noted that he could have had a promising career playing rugby but that too many mandatory field trips to the Carboniferous Limestone with Neville George marred that prospect.

In 1953 Dr Simpson asked Francis to act as a temporary 'carer' to Sir Edward Bailey M.C., who had been Director of H.M Geological Survey from 1937-45. Lady Bailey was concerned that her then 72 years old disabled husband (he had been wounded in World War 1) should be geologizing alone on the Skye mountains. Francis was reckoned to be a safe nurse to look after the old man. Little did he know that Bailey would test him to the limit in cold, wet, and freezing conditions. One morning Sir Edward stripped off his clothes and plunged into the water of a tarn at a height of 1200ft - for a swim - in March! Howel looked on. He recorded the incident in a special edition of 'Local Geological Heroes' published by the Geological Society of Glasgow in 2008. Bailey was Professor of Geology at Glasgow from 1929-37, and so qualified as a 'Glasgow geological hero'.

Very much a team player, Francis became a joint editor (1959-62), of the Transactions of the Edinburgh Geological Society with this obituarist. We were regularly royally entertained by Dr Douglas Grant FRSE at his home. Douglas, then Director of Oliver and Boyd, academic publishers, was the catalyst for many books on Scottish Geology. But there is no doubt that the more effective editorial work for the Transactions was done outside those convivial evenings! That editorial work ended when he was promoted to the post of District Geologist in the Survey Office in Leeds in 1962. In his later years in Edinburgh he had become a keen golfer and had the pleasure of being the official witness of his opponent's hole-in-one, enjoying the obligatory celebration in the clubhouse afterwards! Leeds presented a new challenge – new rocks, more administrative responsibility - and the hunt for a new golf club! Fortunately the Carboniferous rocks of north-east England were familiar from his work in Fife, but in 1967 he was transferred to the North Wales field unit and for the next few years found himself mapping the volcanic complex of Snowdonia, a reward perhaps for his considerable petrological experience in Fife. He continued to live in Leeds and drove down to North Wales each Monday returning home at the end of the week.

We sometimes talked about the freedom (then) of academia as opposed to the more regimented structure of The Geological Survey. I think he rather envied the academics' easy access to international meetings and conferences. But then an outstanding opportunity presented itself when the Chair of Earth Sciences became vacant at Leeds. He applied and was appointed in 1977. The Department of Earth Sciences prospered under his leadership to become one of the top departments in the UK. He wondered how he would cope in his new role as a teacher - on the other hand he brought a wealth of experience as a senior Survey geologist to academia. He became a member of the now notorious Oxburgh Committee which set about rationalising Geology Departments in the UK – not unlike buying and selling players in association football! Some departments grew, some merged and some were closed down! I remember that Edinburgh acquired two distinguished Professors transferred from other 'clubs'. Fortunately the experiment was not repeated in the other sciences. Howel, I am sure, had a calming effect on some of the excesses of that committee! For the curious there are now more Earth Sciences departments in the UK than there were pre-Oxburgh! He was elected President of the Geological Society London in 1980 where he was able to use his charm and administrative abilities to help modernise that august body. Burlington House set in Piccadilly opposite Fortnum and Mason is a splendid building housing the Geological Society, the Linnaean Society, the Royal Society of Chemistry, the Society of Antiquities of London and the Royal Astronomical Society. Fellows (particularly Presidents) had access to overnight accommodation. A large cast-iron key opened a formidable spiked gate with dark steps leading down into a very dingy basement – an extraordinary contrast with the surrounding glitter of the centre of London!

Francis was awarded the degree of DSc from the University of Wales 1969 and an honorary Fellowship at University College Swansea (now Swansea University) in 1989, where he first graduated. He was awarded the Murchison Fund of the Geological Society of London in 1963 and in 1983, the Clough Medal of the Edinburgh Geological Society and the Sorby Medal of the Yorkshire Geological Society. The Geological Society of London added to these “glittering prizes” with the Major John Sacheverell A’Deane Coke Medal in 1989, recognising “his major contributions to British Palaeozoic volcanism and his wide-ranging contributions to the geological community”.

Francis retired to Porthcawl in 1989 where he spent a further very happy 15 years. He had written the chapters on the Carboniferous rocks of Scotland for three editions of the *Geology of Scotland* (1963, 1983 and 1991) and finally a chapter on Igneous rocks for the *Geology of England and Wales* (1992 Duff and Smith). He looked after two very friendly dogs, joined a local golf club and bought a powered trolley with a seat so that he could drive along the road to the clubhouse from his home. From his experience as an external examiner at ten different universities in the UK he happily accepted the posts of external examiner in Oman (1990-92) and Hong Kong (1994-96).

I first met Cynthia, Howel's first wife, at the umbrella stand in the porch of the Warren in around 1950, I guess. She was quite the funniest woman I have ever met and only she could have ‘arranged’ to meet against such an improbable backcloth! They married in 1951. Susan their daughter was born in 1952 Cynthia was a wonderful help to him in his academic career. On one occasion while Howel was on University business in St Andrews, she took up bird watching. He followed her example and they both became expert twitchers. Cynthia suffered kidney failure in 1993 and, after dialysis, in hospital and at home, died in January 1997. Howel not only nursed her with great devotion but applied the same intelligence and administrative skills to organizing her dialysis over the final months of her life. Sometime later he had good fortune to meet up with Edwina an old childhood friend of them both. He moved to Porthcawl to join her and they spent a marvellous further 15 years travelling the world - and discovering as a bonus that Edwina's late husband had left a marvellous wine cellar in his company's office!

Howel Francis was a man's man, kind, generous, unflappable, intelligent and blessed with a calm, disciplined mind. And he benefited from a real-life education, denied to most of us. He had been a public-house schoolboy in Port Talbot!

Prof Gordon Y Craig FRSE

Professor Edward Howel Francis, BSc, DSc, FRSE, FGS, CGeol. Born 31 May 1924. Elected FRSE 1962. Died 22 May 2014