John Somerville Tooms (1927–2021)

The death, on 2 December 2021, of one of the early pioneers of applied geochemistry in mineral exploration and in understanding the nature of undersea mineral resources, marks the end of an era.

John was born on 9 November 1927 at Darfield, near Christchurch, in the South Island of New Zealand, the second of the four children of Irish-born John Douglas Tooms and his wife, Florence May Telfer. His father came from an engineering background and since 1919 had served as an officer on cargo ships which travelled between England, Australia and New Zealand. His parents had married in England in 1923 and their first child, Bridget Mary, was born the following year. In 1926 they emigrated to the South Island of New Zealand, where his father became an apiarist and farmer, selling the honey he produced to the New Zealand Shipping Company, which operated between New Zealand and the UK. John Somerville was born the next year and twins (Margaret Lucy and Patrick Telfer) followed in 1932. By 1935 New Zealand was beginning to emerge from the effects of the Great Depression, but his honey sales no longer brought in enough income and in 1936 the family returned to England where, by 1939, his father was works manager of a motor engineering company in Surrey. He eventually returned to sea, but in 1954 he was lost overboard from the ship on which he was serving.

With the outbreak of war, John served in the Parachute Regiment and Infantry, during which time he was sent to Italy to guard Italian prisoners-of-war. Discharged in 1945, he subsequently attended the University of Wales, Cardiff, where he was awarded his BSc in Geology and Chemistry in 1951 and BSc (First Class Honours) in Geology in 1952, and also married Mary Elizabeth Vaughan Sweeting (1929–2019); they subsequently had two children, Elisabeth and Paul, but separated in 1972 and divorced in 1978.

Imperial College

Following his graduation, John wished to undertake a higher degree, and was invited by Professor David Williams, Head of the Mining Geology Department of the Royal School of Mines at the Imperial College of Science and Technology (ICST), London, to begin research in his Department. Supervised by (Professor) John Stuart Webb (1920–2007), a Lecturer in the Mining Geology Department, who at that time was establishing the science of applied geochemistry in the UK, John’s dissertation was on ‘Geochemical dispersion related to copper mineralization in Northern Rhodesia’. Two years later, the Geochemical Prospecting Research Centre (GPRC) was established within Mining Geology, with Webb as its Research Director. John’s doctorate was awarded in 1955 and he was then appointed a Department of Scientific and Industrial Research Senior Research Fellow (1955–58), an ICST Research Fellow (1958–65) and Reader in Applied Geochemistry (1965–72), acting as Webb’s principal assistant throughout.

The transition, from geochemistry applied to mineral exploration, to regional geochemistry began in 1960 with a project to map the varying concentrations of copper, lead, zinc, cobalt, nickel, chromium, titanium, vanadium, manganese and other elements in stream sediments over the 7770 km2 Livingstone-Namwala Concession area of Northern Rhodesia (now Zambia). Marine geochemical exploration followed the next year, with an initial study (supervised by Webb) of the geochemical dispersion of copper and zinc from a pyritic ore body in the coastal environment of Vana Levu island, Fiji.

With the broadened scope of the GPRC’s activities it was renamed the Applied Geochemistry Research Group in 1963. John and another member of staff were charged by Webb with dividing up the new areas of research between them. John graciously gave his colleague, Ian Nichol (1933–2018) first choice: he selected regional geochemistry and its implications for environmental problems, consequently John ended up heading marine geochemistry more or less by default. Nevertheless, he threw himself into the new endeavour with his characteristic energy, initiating projects on placers, phosphorites, manganese nodules and hydrothermal deposits which lasted into the early 1970s. As a result, his supervision of students dissertation topics changed in 1963 from mineral exploration to marine projects. The first of these was a study of the dispersion of tin in the bedrock, stream sediments, beach sands and unconsolidated marine sediments of Mounts Bay, Cornwall. It was followed the next year by David Cronan’s doctoral study of the geochemistry of pelagic manganese nodules from the Indian and Pacific Oceans.

‘Although John’s sojourn in the field of marine minerals was brief in terms of his career as a whole, it was marked by a realism that was in sharp contrast to the prevailing view on marine minerals that characterised much of the field at that time, and provided a foundation for continuing marine minerals work which lasted until the Group’s demise in 1988, when it continued within the ICST Geology Department’ (D. Cronan, pers. comm.). John left the AGRG in 1972 for personal reasons (following his divorce in 1978 he married Efrosini Marinou) and Cronan took over the marine work from him.

During his time in the GPRC and AGRG, John supervised twenty-eight doctoral and six masters dissertations. The majority of these were concerned with mineral exploration, but twelve with marine geochemistry. He was also involved as a consultant or contractor to the United Nations, governments and mining companies in North and South America, Europe, Australasia, Oceania, Africa and Asia.
The United Nations

From 1970 to 1980, John acted as a Technical Adviser to the UN Headquarters, advising on, and developing, projects with national staff of the developing countries. On leaving the ICST in 1972, he joined the United Nations Development Programme (UNDP) as a Project Manager, initially to ‘strengthen’ the Ethiopian Geological Survey (1973–75). When he finished this project in 1975, he was posted to Nepal, but as he had never been able to take any leave in Ethiopia (because one of his UN appointed geologists had been captured by the Eritrean Liberation Front and he was involved in negotiating for his release), it was decided that he should take a long holiday. With Efrosini and their children, Alexis and Therese, they drove to his next posting in Nepal, travelling to Kathmandu via a challenging forty-two day journey from England, through Europe, Pakistan, Afghanistan and India. He then became responsible for mineral exploration in Nepal, a task made more difficult because ‘for much of the period he also acted as his own Economic Geologist and Applied Geochemist’ as a result of the UNDP financial crisis in 1975–78. From 1978 to 1986, he was Operations Manager and Technical Manager of the UN Revolving Fund for Natural Resources Exploration, at the UN Headquarters in New York, responsible for all aspects of its work, and living in Chappaqua in New York State.

On his retirement to Cyprus in 1986 he grew olive and fruit trees, built many drystone walls, became a member of an archaeological group and a wild-flower photographer, as well as remaining a consultant to the Revolving Fund and to the Cyprus Geological Survey.

In 2001 he and Efrosini travelled to Australia to visit their son. Intending to live there, they moved to Toowomba, near Brisbane but in 2005 decided to return to Cyprus, buying an old house in the village of Prastio, which they then restored. However, in 2010 John’s health deteriorated and they consequently returned to England in 2012, to live in York, where he died on 2nd December 2021. He is survived by his wife, their children, and by his children from his previous marriage.

When John was being considered for the job in Nepal, the Assistant Administrator and Regional Representative for UNDP in Ethiopia, Richard B. Stedman (1920–2013; who eventually retired as Assistant Secretary-General of the UN), wrote to his counterpart in Nepal: ‘Tooms is hard working, technically sound and well-motivated. He has done good work here. He is also a man of principle – he tells them the truth, whether they want to hear it or not. I have wished once or twice that he was a little more adept at ‘rolling with the punch’, but I don’t know many New Zealander’s who are! I think he’s a good, slightly tough supervisor. His staff is loyal to him. In short, if you want a good, technically sound, hardworking character, and are prepared to accept slightly rough edges – which have shown themselves to be polishable in Ethiopia – you couldn’t do better than John Tooms.’

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