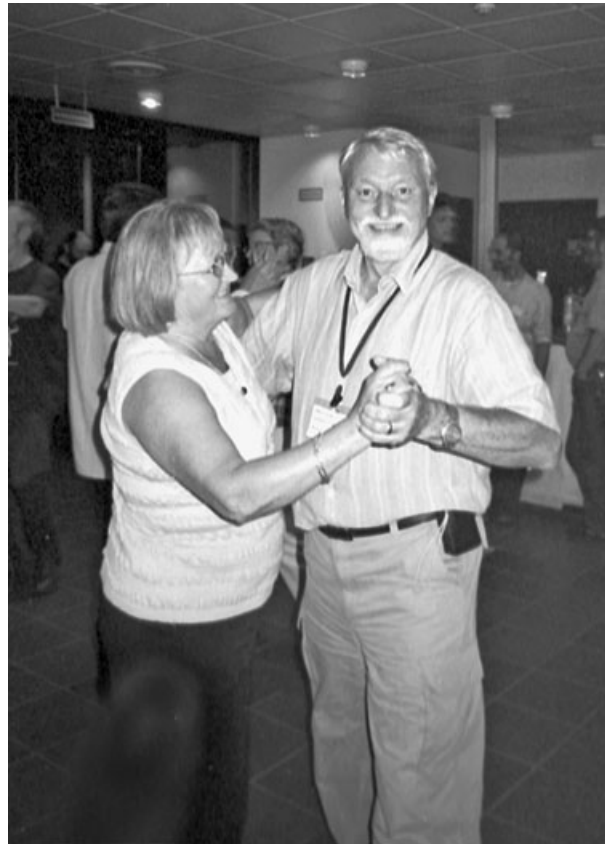


John Gray (1941–2007): a tribute



John Stuart Gray was born in Bolsover (near Chesterfield, UK) in 1941 and went to Bangor University [then the University College of North Wales (UCNW), Bangor] in 1959. UCNW was then a very small but rapidly growing constituent college of the University of Wales, with a highly regarded Zoology department and a rather new Marine Biology Station (now incorporated into the School of Ocean Sciences) in a rather old building close by Menai Bridge pier. F. W. Rogers Brambell, the Professor of Zoology, was a mammalian embryologist but had the breadth of interest and foresight to recognize the marine biological potential of the Menai Strait and surrounding area. He ran a wonderful Easter Marine Vacation Course and had been instrumental in setting up the Marine Biology Station. With marine biologists contributing to teaching, it provided a splendid opportunity for aspiring marine biologists.

After graduating in Zoology (1962), John went to work under the supervision of Dennis Crisp at the Marine Biology Station. Crisp, with a background partly in physical chemistry, specialized in barnacles and larval settlement behaviour, and encouraged a numerical and experimental approach to ecological problems. Visitors to the Marine Biology Station commonly shared Crisp's particular interests, but in 1957 included Bertil and Martha Swedmark. Bertil was one of the founder researchers on meiofauna, who found the area to be excellent for it, and in the following year Crisp took on his first doctoral student in this field, Pat Boaden. John Gray followed in 1962. John is remembered by his contemporaries as a rather dashing young man, with a sports car (any car was unusual in those days!) and plenty of girlfriends; he enjoyed music and was also a good hockey player. Not allowing himself to be overly distracted by his social life, John achieved an

outstanding PhD thesis 'Behaviour and ecology of meso-psammic archiannelids', which was awarded the Zoological Society of London's T.H. Huxley Prize for the best thesis of 1965.

After finishing at Menai Bridge, John was appointed in 1965 to an Assistant Lectureship (Lectureship in 1977) at the Wellcome Marine Laboratory (part of Leeds University's Department of Zoology, and now closed) at Robin Hood's Bay, North Yorkshire. The then active laboratory was under the direction of Jack Lewis, well known as a rocky shore ecologist, and he and John had some outstanding graduate students in the late 1960s. John continued with his studies on meiofauna but expanded his interest to include the River Tees estuary (then with the unenviable reputation as Britain's most polluted river). John, as throughout his life, made regular working visits abroad but particularly to the Kristineberg Marine Laboratory in Sweden, where Swedmark was director. Kristineberg served as a special summer meeting place for several of the 1960s' generation of meiofauna workers, who regarded Bertil Swedmark as 'le Patron' in this research field. It was a great place for the exchange of ideas which helped push European meiofaunal studies forward on a broad front. It was at Kristineberg that John met Anita, who became his wife.

During the early 1960s. Otto Kinne had instituted annual marine biological conferences at the Biologische Anstalt, Helgoland. At first essentially German, Kinne felt the need to broaden the participation. So, following consultation with marine biologists in other European countries, the first European Marine Biology Symposium (EMBS) took place in Helgoland in September 1966, launching the successful format that continues to this day. For some relaxation it had been proposed to hold a light-hearted competition between the participating nations, but for what prize? It happened that during the summer of 1966 the Beatles had released an album containing the song (written for children!) 'The Yellow Submarine', which had rapidly gone to the top of the charts. When a few of the participants, including John, saw a toy, plastic yellow submarine in a local shop window, they had the inspiration to buy it for the prize. So was born the tradition of the Yellow Submarine competition, which has enlivened every EMBS for over 40 years. It also provides an insight into why John was not just a distinguished scientist but good company and a popular colleague and companion. Within the EMBS, John's contribution was recognized when he was elected President for the 1985–87 triennium.

John was awarded a DSc degree by the University of Wales in 1975. Then, the following year, he left Robin

Hood's Bay to take up the chair of Marine Biology and Zoology at Oslo University, where he remained until his premature death on 21st October 2007. He continued to work in various parts of the world, including the Antarctic (from his appointment in Norway he naturally developed an interest in polar ecosystems). On one Antarctic cruise, when gear failure interrupted the sampling programme, John used the time to draft out his book *The ecology of marine sediments: an introduction to the structure and function of benthic communities* published in 1981 (and subsequently translated into German by Heye Ruhmohr, and published as *Ökologie mariner Sedimente. Eine Einführung* in 1984). Not long after the book was published John became a member of the NATO working group on bacteria and bacterivory in the sea, which met in Bourbannes, France, in May 1982. The outcome of that was the famous MEPS paper by Farook Azam and five others, which introduced the concept of the 'microbial loop' in marine ecology. This highly cited paper is inevitably referred to as Azam *et al.*, which conceals the names of those, including John, who were the intellectual inspiration of this seminal work.

John's early work on meiofauna was among the first to establish the preference of meiofaunal species for particular substratum parameters, and his work with *Protodrilus* (one of the little polychaetes once known – misleadingly – as 'archiannelids') and sand bacteria was particularly innovative. John's other major interests included marine pollution. Among the characteristics of his work were his experimental approach (including his use of mesocosms at Oslo) and intellectual rigour in planning and in analysing data. The latter is exemplified by his use of the log-series and log-normal distribution functions in benthic and pollution studies. It had been known since the 1940s and 1950s that the diversity and abundances of species often provided a remarkably close fit to one or other of these distributions. John applied the log-normal as a means of demonstrating whether a fauna was impoverished but – as his papers show – he was meticulous in how it should be applied and critical of misuse.

John's view of science was geographically very broad, with visits to labs all over the world. He was a vigorous supporter of young scientists, and there are many worldwide who have reason to be grateful for his encouragement. He had a remarkable ability to spot a potentially significant area of research slightly ahead of everyone else (the microbial loop, statistical approach to pollution studies, high-latitude ecosystems, and marine biodiversity being examples) and a characteristically forthright approach to 'good' and 'poor' science. He served on the Marine Sciences committee of the Natural Environment Research Council (NERC) in the UK at a time when bio-

logical input seemed undervalued. Through his premature death, all of us (including the EMBS) have lost an inspirational colleague and wise counsellor, marine science has lost one of its most innovative and distinguished biologists, and many of us have lost a good friend. Many recall John and Anita as welcoming hosts. Typically, during the year of his illness, John not only fulfilled educational commitments overseas but revised the text of his book [now *Ecology of marine sediments: science to management* (November 2008)] to the state in which Mike Elliot could complete it and see it through the press. It will be a fitting legacy.

Pat Boaden, Andrew Clarke, Robin Gibson, Heye Rumohr, Bangor University alumni office and Leeds University have contributed information for this article.

John Ryland

*Biological Sciences, Swansea University
Swansea,*

E-mail: j.s.ryland@swan.ac.uk

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