PEOPLE - BEREAVEMENTS

Emeritus Professor P.H.A. Sneath - 17th November 1923 – 9th September 2011

Obituary

The eminent microbiologist Peter Henry Andrews Sneath FRS, first Professor of Clinical Microbiology and Head of Department of Microbiology at the University of Leicester and Honorary Consultant Clinical Microbiologist to the Leicestershire Health Authority from 1975 to 1989 died, aged 87, on September 9th 2011.

Born in Galle, Sri Lanka, where his father was Principal of Richmond College, Peter was educated at Wycliffe College, Gloucestershire from where he won a Foundation Scholarship to read Natural Sciences at King's College Cambridge. He completed his clinical studies at King's College Hospital Medical School in London and later acquired further microbiological training at the London School of Hygiene and Tropical Medicine.

After being commissioned and qualifying as a pathologist in the Royal Army Medical Corps, Peter was posted to Malaysia in 1950. It was while there that he embarked on studies that would eventually revolutionise microbial systematics (the science of classifying bacteria into genera and species). These studies centred on the purple-pigment producing bacterium Chromobacterium violaceum, several strains of which he isolated from local waters and then unexpectedly from a fatal human infection. On his return to the UK, as a research scientist at the National Institute of Medical Research, he expanded the work to include other purple-pigment producing bacteria isolated from soil and water in temperate regions. Comparing the properties of all these strains led him to ponder how bacteria could be classified into stable groups that could then be named so that future isolates could be identified with confidence. Current classifications were inadequate largely because workers often used different kinds and amounts of data to identify bacteria leading to conflicting and unstable classifications. In 1957, after careful analyses of his own test data and much reflection he concluded, contrary to current views, that in determining similarities between bacteria, each character exhibited by a bacterial strain under defined conditions should be given equal numerical weight and that all the characters of every strain should be compared to those of all the other strains in the study. A year later, a similar approach was used independently by an American scientist, Robert Sokal, to classify bees. The application of the concepts of Sneath and Sokal to classification was made possible only through the use of early computers because of the heavy load of routine calculations. In a joint decision the two scientists decided to call the new discipline Numerical Taxonomy. A co-authored book, Principles of Numerical Taxonomy was published in 1963 and another The Principles and Practice of Numerical Classification in 1973. The latter remains the standard text on the subject.

A direct result of Peter Sneath's novel contribution to the stable classification of medically important bacteria was his appointment in 1964 as Director of The Medical Research Council Microbial Systematics Unit at the University of Leicester, a position he held until the Unit was dissolved in 1975 on his appointment to one of the Foundation Clinical Chairs in the new Medical School.

After 1964 much of Peter's scientific work was concerned with revising the taxonomy of medically important groups of bacteria through the development and application of numerical taxonomy. This together with his concomitant development of miniaturised tests and computer based data handling, led to the automated identification systems used throughout the world to this day. Numerical taxonomy was a major development in microbial systematics and continued to underpin the discipline until the advent of nucleic acid pairing and gene sequence comparisons some 20 years later. The basic principles still have relevance today in what has come to be known as "polyphasic taxonomy" which employs both molecular techniques and multiple character tests.

A consequence of the development of stable microbial classifications was a requirement to rationalise bacterial nomenclature. Peter played a significant role in the work of the International Committee on Systematic Bacteriology that resulted in a most important

innovation in bacterial nomenclature – a new starting date (1980) and document for names of bacteria. Peter was also heavily involved with the Bergey Trust, the organisation responsible for Bergey's Manual of Systematic Bacteriology, the definitive handbook of descriptions of all bacterial species at the time of publication.

A member of the Bergey Trust from 1978, Chairman from 1990 to 1994, he had major editorial responsibilities for the first edition of Bergey's Manual of Systematic Bacteriology published between 1984 and 1989 and was still involved with the most recent edition which began publication in 2001 and is still on going.

Other national and international bodies on which he served include the Council of the Society for General Microbiology, the COSPAR Panel on Planetary Quarantine and the Council of the International Congress for Systematic and Evolutionary Biology. Much in demand as a speaker, he was a Visiting Professor at a number of American Universities.

In his scientific research he collaborated widely, often with workers from other disciplines. In all, his studies resulted in some 350 publications, the majority in peer reviewed journals. He supervised and took a great pastoral interest in many graduate students, some of whom became distinguished microbiologists in their own right and over 14 years presided over the development and expansion of a Microbiology Department that became widely known and regarded at home and overseas.

The quality of his research work resulted in many honours. The Society for General Microbiology noted his achievements in 1983 with a special symposium entitled "25 Years of Numerical Taxonomy". He was the first recipient of the Van Neil International Prize for Studies in Bacterial Systematics. In 1998 he received the Bergey Medal for distinguished achievement in bacterial taxonomy. Over the years he was awarded honorary membership of the American Society for Microbiology, the French Society for Microbiology, the Czechoslovak Society for Microbiology, the Society for Applied Microbiology, the Society for Systematic Zoology, the United Kingdom Federation for Culture Collections and made an emeritus member of the Biochemical Society. In 1991 he was made a Fellow of the American Academy of Microbiology and in 1995 a Fellow of the Royal Society.

In 1953 Peter married Joan Sylvia Thompson. Joan died in 2005 after 52 years of a very happy, mutually supportive marriage. He is survived by his daughters Barbara and Catherine, his son David and seven grandchildren.

Dorothy Jones and Bill Grant

Bill Grant is Emeritus Professor of Microbiology and Dorothy Jones is an Honorary University Fellow having previously been an MRC senior fellow in the Microbiology department with honorary status within the university until her retirement about 15 years ago.

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