

## James Spence Medallist, 1979

### Kenneth William Cross

Kenneth Cross was educated at St Paul's School, London from 1930 to 1935 and then at St Mary's Hospital (London University) where he had won a Moran Scholarship.

After house appointments early in the war he served in the emergency medical service and was graded as a physician. He was in the Friends Ambulance Unit in China immediately after the war and returned to St Mary's in the physiology department under A. St. G. Huggett. At this time (1948) he started work on the ventilation of the newborn infant and was one of the first to apply objective physiological techniques to the clinical problem of resuscitating the newborn baby. He continued in the field of neonatal research thereafter.

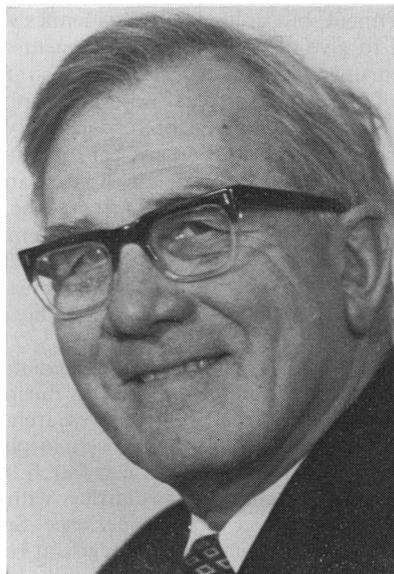
In 1958–59 he was a visiting professor in the Cardiovascular Research Institute at San Francisco, directed by Dr Julius H. Comroe Jr, where he initiated neonatal research with a trio of young paediatricians, Marshall Klaus, William Tooley, and the late Kurt Weisser of Basle. From this small beginning grew what became one of the largest paediatric research groups in the USA.

In 1960 he became professor of physiology at The London Hospital Medical College, and in 1963 obtained a Medical Research Council Group to study respiration and metabolism in the newborn. Many of his publications have appeared in the *Journal of Physiology*, while in 1973 he organised for the Physiological Society the Joseph Barcroft Centenary meeting, and edited the account of that notable international symposium.

In presenting the James Spence medal to Professor Cross at the annual general meeting of the British Paediatric Association at York on 28 March 1979, the President, Professor O. H. Wolff spoke the following citation:

'Kenneth Cross is this year's James Spence Medallist. Our Association recognises the great contributions made to the advancement of paediatric knowledge by workers in allied disciplines. The Spence Medal has now been awarded on 18 occasions and among the medallists there are immunologists, geneticists, biochemists, physiologists, psychiatrists, in addition to paediatricians. But, I am afraid, we

have not always been generous in openly acknowledging how much we paediatricians owe to our colleagues in the basic sciences. Without them the scientific basis of paediatrics would indeed be shaky. It is today my sad duty to have to remind you that when Kenneth Cross's name was first put forward for membership of the Association, the proposal was unsuccessful because, it was said, paediatricians saw no reason to include a physiologist among their members. By 1957 Kenneth's contributions to the physiology of the newborn were so many, so fundamental, and of such immediate relevance to paediatric practice, that at last he was elected a member. It is good that today we can make amends for our earlier lack of vision and give Kenneth the highest award of our Association. Kenneth has not had an easy professional life; paediatricians were slow to recognise the importance of his work for paediatrics, and physiologists found it impossible to believe that fundamental work could be done on the human newborn. At the same time as the first proposal for membership of the BPA was turned down, Kenneth



was told by his professor at St Mary's that it was time he stopped playing about with babies and got down to some proper physiology.

'Fortunately Kenneth is tough and these rebuffs further inspired him and stimulated his scientific curiosity and inventiveness, and his papers on neonatal respiratory physiology, written with clarity and economy of words, continued to be a stimulus to all of us. Even physiologists have over the years recognised the great merit of Kenneth's work and I believe that he may even have succeeded in persuading them that the human neonate, despite all his imperfections, is not to be despised as an experimental subject. The neonatal rat, guinea-pig, rabbit, pig, and lamb are no longer the only heroes on the stage of perinatal physiology. Accordingly, last year, Kenneth was invited to give the annual review lecture of the Physiological Society.

'Kenneth is tough, not only in spirit, but also physically. A Rugby football player of exceptional skill, he was admitted to St Mary's Medical School on a Rugby Scholarship. He drives an open car in all weathers and cannot understand why, during the arctic conditions of this winter, and despite rail strikes, some of his friends were a little reluctant to accept his offers of a lift.

'As head of his academic department, Kenneth is known for his personal concern for the problems of all members in his department and for his complete fairness. He can be firm when the occasion demands but he is no disciplinarian. In particular, he objects to being called 'Sir' by the more attractive girl students. I cannot tell you how he likes best to be addressed by them. He is respected and revered by his department, but unlike many academics who are prepared to give of their all for the benefit of their *own* department but show little concern for the welfare of the whole medical school or university, Kenneth has a wider sense of responsibility. It is, therefore, not surprising that his colleagues elected him Chairman of the Academic Board, and that among many other commitments he serves the British Council on its Medical Advisory Committee. Committees benefit greatly from his wisdom, delightful dry sense of humour, capacity for constructive criticism, and his willingness to make the needed unpopular remark.

'As a teacher, he has given much to paediatricians, many of whom have had the opportunity during their period of training, of carrying out research in his department. Some of them have been inspired by Kenneth to continue in paediatric research. Others have returned to clinical paediatrics with their clinical focus sharpened by the experience. Specifically I may mention the imaginative registrar rotation scheme which Kenneth established with his col-

leagues, Richard Dobbs, Tony Jackson, and Bertie Webb of Taunton, and in which the registrar spends one out of three years in neonatal research in Kenneth's department. Clinicians enjoy working with Kenneth, in part because he has much clinical experience gained during the war years as physician, including the period spent with the Friends Ambulance Unit in China.

'There is a particular interest of Kenneth's which should be mentioned. Physiologists who use human beings as subjects for their experiments have given much thought to the ethical principles of such research. Claude Bernard in 1865 realised clearly that data obtained from experiments on human beings are essential if the results are to be applied safely to the practice of clinical medicine. But Bernard warned that experiments, however interesting for science and potentially beneficial for the health of others, are not justified if they bring a degree of danger to the subject of the experiment. Robert McCance, the James Spence Medallist of 1961, in a splendid essay on perinatal physiology, points out that during the closing years of the last century and the first 25 years of this, physiologists such as Haldane and Barcroft carried out experiments on humans which would not have satisfied Bernard's criteria because there was some risk. However, these great physiologists, and a little later McCance himself and Widdowson, experimented on themselves and their colleagues. In his work with the newborn Kenneth insists on the strictest ethical criteria and Claude Bernard would have approved. He never sedates a baby in order to facilitate the investigation, he likes the mother to be present during the experiment, and when wishing to obtain the mother's permission for an experiment on her normal baby he does not use the subterfuge that the experiment might help her baby. At the same time he has no doubt, and has convinced all of us, that research on the newborn is an essential ingredient of paediatric research aimed at the improvement of child health.

'In 1974 at the Royal College of Physicians of London he summarised his views on these important matters in a Bertram Louis Abrahams Lecture entitled 'Investigating the newborn infant: the ethical imperative'. The Medical Research Council has been slow in recognising the importance of paediatric research, and facing up to the ethical problems of such research. I am hopeful that the attitude of the MRC is beginning to change in this respect, and if I am right then much of the credit for this enlightenment will go to Kenneth who has been engaged in lively debate with the MRC for some time.

'My brief remarks will have made it clear that, like most original minds, Kenneth has had to overcome obstacles. Fortunately he is a fighter. Such a

man needs even more than most of us a wife with whom he can share the exasperations arising from professional conflicts or who on other occasions is ready to put up with an irritable temper resulting from the battles of the day. Sheila is all this to Kenneth and so much more. Her own contributions to paediatrics are considerable, and she even finds time to serve our Association with distinction on Council and as Regional Representative. Perhaps from time to time she too comes home in the evening ready to share *her* worries with Kenneth. We wonder who speaks first?

'And now Kenneth may I give you this year's James Spence Medal.'

**James Spence Medallists**

1960 Professor A. A. Moncrieff

1961 Professor R. A. McCance  
1963 Sir F. Macfarlane Burnet  
1964 Professor L. S. Penrose  
1965 Dr Cicely D. Williams  
1967 Professor R. R. A. Coombs  
1968 Dr Mary D. Sheridan  
Dr D. W. Winnicott  
1969 Dr G. S. Dawes  
1970 Professor D. V. Hubble  
1971 Dr W. W. Payne  
1972 Dr R. C. Mac Keith  
1973 Professor C. A. Clarke  
1974 Dr J. Bowlby  
1976 Dr D. M. T. Gairdner  
1977 Professor R. S. Illingworth  
1978 Dr S. D. M. Court