OBITUARY

Frederick George Butler 1930–96

Fred Butler, who died on 19th April 1996 aged 66, had a profound influence on the way in which geotechnical design is now undertaken in the UK.

When he joined Ove Arup & Partners in June 1961 as an internal Geotechnical Consultant, a post first created in 1958 by Peter Dunican and Ove Arup himself, geotechnical design was almost entirely undertaken by site investigation contractors. However, competitive tendering for site investigations often led to minimal investigation with conservative design recommendations.

Fred appreciated that it was essential for the designer to assume much greater control of geotechnical processes, especially with the advent of increased foundation loads and deeper basements. The site investigation was itself designed on the basis of a desk study, and the results were used not only in interaction with structural engineers to provide an economical foundation design, but also to assist in specifying and supervising foundation construction. Although this approach is now accepted as the norm, it was nevertheless exceptional in the 1960's.

Initially Fred operated on his own holding 'surgeries' with structural engineering groups. Their success necessitated expansion which Fred achieved by carefully blending the ideas and training of post-graduate researchers from leading universities with those of greater practical experience.

Although the geotechnical group was better able to control the geotechnical investigation, design and implementation, it was essential that the standards for ground investigation and for foundation construction should also be raised. Accordingly, he and Ken Cole drafted Arup's own specifications for site investigation, laboratory testing, piling, pile inspection, diaphragm walls, etc. Many of these documents now form the basis for National Specifications and British Standards.

Fred was keen to observe how structures performed in practice and became a great advocate and initiator of settlement monitoring. The Conference on the Settlement of Structures in 1974; the highly successful forerunner of a sequence of soil-structure interaction conferences; provided an appropriate opportunity for Fred to bring the findings of his careful monitoring to fruition. Fred helped organise this first conference and his own

Fred Butler

review paper on 'Heavily over-consolidated cohesive materials' is still widely consulted.

Fred Butler was born on 21 January 1930 and was brought up in Englefield Green, Egham, where he attended Strodes Grammar School. After completing his National Service in the Royal Signals in 1951, he studied at Woolwich Polytechnic, part of London University, graduating with a BSc Honours Degree in Civil Engineering in 1954. He joined the staff of Donovan Lee & Partners where he was initially responsible for steelwork design before working on schemes for Brinsworth Steel Strip Mill. In 1955 he moved to Rotherham as Assistant Resident Engineer (Civil), later Resident Engineer, for this project. This appointment was particularly convenient as it helped him to pursue his courtship of Janet, who hailed him from North Derbyshire and whom he had first met in 1956 while she was studying at the Royal Holloway College, Egham. They married in 1957 shortly after Fred's next career change.

In August 1957, having had his appetite for foundations whetted by his civil engineering ex-

perience, Fred joined Soil Mechanics Ltd, at that time regarded as the 'finishing school' for aspiring geotechnical engineers. He worked in the design office on foundations for various industrial and marine projects. During this time he attended the post-graduate soil mechanics course at Imperial College.

He joined Freeman Fox & Partners in 1960 as section design engineer responsible for elements of the Rhydal hydroelectric scheme in North Wales.

In 1977, towards the end of his lengthy career with Ove Arup & Partners, Fred was appointed Director responsible for their newly created Coastal and Water Engineering Division, where he was able to put to good use his heavy civil engineering and marine foundation design. He left in 1983 to set up on his own as a geotechnical consultant, working from his home in Sevenoaks with his family assisting with the administration. He formed the Butler-Puller Partnership with Malcolm Puller in 1986, continuing as the sole partner when the latter retired in 1992. Not unexpectedly this consultancy flourished and grew in size, giving advice to a wide range of clients on foundations and deep excavations.

During this time Fred was heavily involved with the problems posed by the disused salt mines in the Northwich area of Cheshire, in particular understanding the processes of their deterioration (notably creep) and formulating novel means of backfilling them to ensure their safety. It is a great misfortune that he did not live to see his ideas put into practice.

Perhaps Fred's greatest attribute was his infectious enthusiasm for geotechnics and his unstinting encouragement of others. Many geotechnical engineers were attracted to work for him and flourished under his guidance. Fred Butler can be regarded as one of the unsung heroes of British Geotechnics, whose foresight and endeavour helped shape many of the practices that today are unquestionably taken as the norm.

Fred was a keen gardener and walker, and a connoisseur of wine, sharing the first two hobbies

with his widow Janet. He also leaves four children, David, Jenny, Sally and Peter, and four grandchildren.

—Andrew Lord

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