



## Professor R.E.D. “Dick” Bishop (?-1989)

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### Parts of a January 2009 article in the Journal of Mechanical Engineering Science

(JMES) by D.E. Newland of the Engineering Department of Cambridge University. The article is a memoir for the 50th anniversary volume of the JMES. Its title is “Mechanical vibration: R.E.D. Bishop’s contribution to the JMES” :

D.E. Newland writes:

“Vibration analysis and control has been one of the principal themes of the JMES since its inception. The Journal’s first issue contained four papers on vibration topics. Three of these had R E D (Dick) Bishop as author or co-author. All were on the subject of rotor vibration and balancing. . . . Dick Bishop played a large part in establishing the JMES as an accepted forum for good papers on mechanical vibrations. He was one of the founding members of the JMES’s editorial panel and remained so for 30 years before his untimely death in 1989. . . . Bishop studied under Timoshenko at Stanford University in the 1950s and, not surprisingly, Dick Bishop’s first paper in the JMES draws on material in Timoshenko’s book, Vibration Problems in Engineering. . . . Dick was appointed to an assistant lectureship (then called a demonstratorship) in the Cambridge University Engineering Department, where he became a close colleague of D C (Dan) Johnson. D. C. Johnson had joined the Cambridge department in the same capacity after the war in 1946.

The main permanent result of the Bishop-Johnson collaboration is their 600 page volume The Mechanics of Vibration, completed in 1957 (although not published until early 1960). This collaborative effort was made more difficult when D C Johnson was appointed to a chair at Leeds in 1956 and then R E D Bishop to the Kennedy Chair at University College London in 1957. . . . By the time of the first issue of the JMES, Dick Bishop had published some 30 papers covering an interesting range of vibration problems, mainly linear vibration and wave propagation topics. . . . Following his first rotating shaft paper, The Vibration of Rotating Shafts in the first issue of this Journal [JMES], in the next 10 years Bishop would be author or co-author of 10 more papers on the vibration and balancing of rotating systems (6 of them in the JMES), all written with his collaborators at the time, three more with G M L Gladwell, six with A G Parkinson and one each with A L G Lindley and S Mahalingam. In all, he published 23 more papers in the JMES.

During the first 15 years of the journal, R E D Bishop and his collaborators published also on other subjects in the JMES, mainly on theoretical problems of linear vibration, on resonance testing, and on modal analysis. But, by 1974, Dick’s interest had turned to ocean engineering and the dynamics of ships. This led him to publish mainly in marine journals and he only published four more JMES papers, one with S Mahalingam, one with I F A Wahed and two with his new collaborator W G Price on the dynamic analysis of marine structures.

But although he did not publish many more papers in the journal himself, Dick continued to promote the JMES with enthusiasm. He succeeded Hugh Ford as the third chairman of the Editorial Panel . . . and he continued in this capacity until his appointment as Vice-Chancellor of Brunel University in 1981. . . .

His death left a void in his subject of Vibration and Dynamics. I and many of his collaborators over the years have greatly missed his incisive and challenging leadership in our branch of applied mechanics. He played a huge part in establishing the JMES as the respected and authoritative journal that it has become. There is a very good biography [Price, W. G., Proc. R. Soc. London, 1994, Biographical Memoirs, 3-29], prepared by Dick's friend and colleague Geraint Price. . .

## **Selected Publications:**

### **Books:**

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R.E.D. Bishop, G.M.L. Gladwell and S. Michaelson, *The Matrix Analysis of Vibration*, Cambridge University Press, 1979 and 2008

Richard Evelyn Donohue Bishop, *Vibration* (based on six lectures delivered at the Royal Institution, London in December 1962), Cambridge University Press, 1965

R. E. D. Bishop and W. G. Price, *Hydroelasticity of Ships*, Cambridge University Press, 1979

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