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A century of fluid mechanics: 1870–1970/Un siècle de mécanique des fluides : 1870–1970

The early years of the *Journal of Fluid Mechanics*. Style and international impact

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ABSTRACT

The origins of the *Journal of Fluid Mechanics*, of which the first volume was published in 1956, are discussed, with reference to editorial correspondence during the early years of the *Journal*. This paper is based on a lecture given at the colloquium: *A Century of Fluid Mechanics, 1870–1970*, IMFT, Toulouse, France, 19–21 October 2016.

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1. Introduction

A history of fluid mechanics must rely primarily on written evidence, whether in the form of printed sources or surviving correspondence. But recent history may also rely to some extent on the memories, however fallible, of those who were involved in the events described. One important historic event that falls within the century 1870–1970 on which we are asked to focus at this meeting was the creation in 1956 of the *Journal of Fluid Mechanics*, or briefly *JFM*, widely recognised now as the leading international journal covering fluid mechanics in all its aspects. The achievement of the founding Editor, George Keith Batchelor, was of great importance for the subsequent development of our subject.

I was privileged to become a research student in 1958 at Trinity College, Cambridge, under Batchelor's guidance; I took my PhD in 1962, and had been recruited by him even a year earlier to help with copy-editing for the *Journal*. I thus worked 'at the coalface' for several years, prior to becoming co-Editor with Batchelor in 1966, a position that I then held until 1983. I was thus able to observe with ever-growing admiration and respect Batchelor's handling of journal matters over an extended period.

Thus it seemed appropriate, when invited to talk at this meeting, that I should attempt to provide some account of the early days of the *Journal*, based on my own memories, such as they are, and on correspondence that survives from the early years of *JFM*; I restrict myself to the period 1955–1962. This correspondence is archived in the Wren Library of Trinity College (where Batchelor was a Fellow from 1947 until his death in 2000) and is currently being catalogued. The complete collection will provide a valuable resource for future historians of science of that era.

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George Keith Batchelor
1920-2000
Founder Editor of *JFM*
1956-2000
Aged 36 in 1956



Michael James Lighthill
1924-1998
Associate Editor of *JFM*
1956-1978
Aged 32 in 1956



Wayland Coleman Griffith
1925-2003
Associate Editor of *JFM*, 1956-1988
Aged 31 in 1956
University Archives Photographs,
UA 023.024 item #023127, Special Coll.
Research Center, NCSU Libraries



George Francis Carrier
1918-2002
Associate Editor of *JFM*
1956-1986
Aged 38 in 1956

Fig. 1. The *JFM* editorial team, all in their 30s at the launch of the journal in 1956.

2. The editorial team

The first issue of the *Journal of Fluid Mechanics* appeared in May 1956. On the inside cover of this first part, we read: “The *JOURNAL OF FLUID MECHANICS* exists for the publication of theoretical and experimental investigations of all aspects of the mechanics of fluids, and is issued in six parts per volume.” The Founder Editor was named as Dr. G.K. Batchelor, whose address at that time (three years before the foundation of the Department of Applied Mathematics and Theoretical Physics) was given as the Cavendish Laboratory, University of Cambridge (he was actually a Lecturer in the Faculty of Mathematics and a Fellow of Trinity College, Cambridge); and there were three Associate Editors: Prof. G.F. Carrier (Harvard), Prof. W.C. Griffith (Princeton University) and Prof. M.J. Lighthill (Manchester University). (See Fig. 1.) The journal was initially published by Taylor & Francis Ltd., and the price was “£1 (\$3) per part”; the exchange rate of pounds to dollars has decreased over the last 60 years!

Two ‘Assistant Editors’ were also named on this first part of the journal, Dr. T.B. Benjamin and Dr. I. Proudman, both colleagues of Batchelor in Cambridge. Brooke Benjamin was in the Engineering Department of the University; he would later serve for a period (1961–1965) as co-Editor with Batchelor. Ian Proudman was the son of Joseph Proudman (1888–1975), early pioneer of dynamical oceanography; Ian had been Batchelor’s first research student, and had just completed with him a major work [1] on the large-scale structure of homogeneous turbulence; he was destined to leave Cambridge in 1963 to

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