

BIOGRAPHICAL MEMOIRS

Frederick Clifford Tompkins. 29 August 1910 – 5 November 1995: Elected F.R.S. 1955

David King and John Enderby

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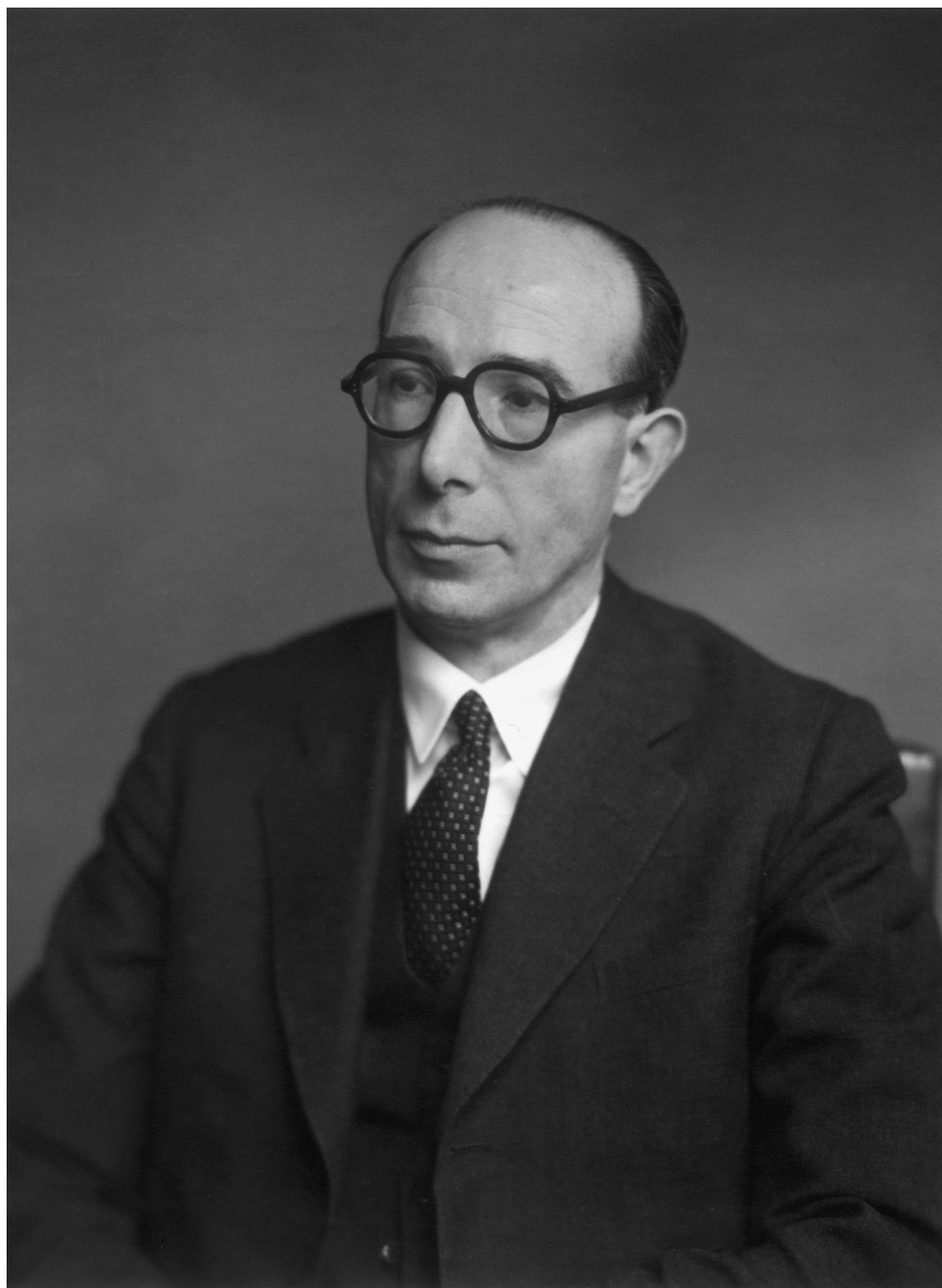
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FREDERICK CLIFFORD TOMPKINS

29 August 1910 — 5 November 1995



F. C. Tompkins

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Elected FRS 1955

BY DAVID KING¹ FRS AND SIR JOHN ENDERBY² FRS

¹ *Office of Science and Technology, Albany House, 94–98 Petty France,
London SW1H 9ST, UK*

² *HH Wills Physics Laboratory, Tyndall Avenue, Bristol BS8 1TL, UK*

Frederick Tompkins was a physical chemist of great distinction whose contributions to the development of two research fields, surface science and solid state reactions, were matched by his long service as Secretary and Editor of the Faraday Society. Throughout his career he had the knack of attracting bright young students into his research group and, through a rigorous apprenticeship, turning them out as scientists who went on to occupy senior academic positions around the world. Thus his influence extended well beyond his own immediate contributions.

Tompkins's early studies of adsorption (the taking-up of gases by surfaces) on solid surfaces were on polar solids but, although this was always maintained as an interest, perhaps his best-known contributions to adsorption studies were on metal surfaces. Work initiated in the 1950s, based on metal films deposited under stringent conditions and covering a range of different physical techniques, established his reputation firmly in the field of chemisorption on metals. Students and postdoctoral workers of his continued the development of this field.

Tompkins was born in Yeovil, Somerset, in 1910, and was pleased to record that his scientific attainment at Yeovil Grammar School, which won him a County Scholarship to Bristol University, was matched by his talent as an essayist and as a pianist. As an undergraduate he was greatly influenced by the teaching of William Garner (FRS 1937) and of John (later Sir John) Lennard-Jones (FRS 1933), and at the age of 20 years he graduated with first-class honours in chemistry and theoretical physics. He completed his PhD at Bristol with Garner, who first introduced him to both surface and solid state chemistry.

This memoir is based on an obituary written by Professor King that appeared in *The Independent* on 16 November 1995. We are grateful to *The Independent* for permission to reproduce the text.

After a period at King's College, London, as an assistant lecturer, he joined the University of Natal in Pietermaritzburg, South Africa, where he spent nine formative years in research, first as a lecturer and then senior lecturer. He had married Catherine Macdougall in 1936, one year before leaving for South Africa, and it was in that country that their only child, Josephine, was born.

Pioneering work on the kinetics of the decomposition of solids was conducted in Pietermaritzburg with his student E. G. Prout, who was later promoted to the Chair of Physical Chemistry at the University of Cape Town. The Prout–Tompkins equation became widely quoted in the field. It was there that Tompkins also initiated P. W. M. Jacobs into research, and it was Jacobs who, first at Imperial College, London, with Tompkins, and later at the University of Western Ontario, took up the baton in solid state chemical kinetics. Tompkins kept his contacts with South Africa, both through his ex-students and by recruiting researchers to his team, after returning to London.

In 1946 he returned to King's College as a Research Fellow, and after a year moved to a Readership at Imperial College, where he stayed for the next 30 years until his retirement. Having published almost exclusively in the *Transactions of the Faraday Society*, the house journal of British and Commonwealth physical chemists, it was perhaps natural that the talented but fastidious young scientist should also, on returning to Britain, be elected as Secretary and Editor of the Faraday Society, a post he held for the next 30 years. In 1955 he was elected a Fellow of The Royal Society and in 1959 to a Personal Chair at Imperial College.

The 1950s and 1960s proved to be a golden period for the Chemistry Department at Imperial College. The place nurtured four remarkably distinguished (and different) individuals, two of whom, Derek (later Sir Derek) Barton (FRS 1954) and Geoffrey (later Sir Geoffrey) Wilkinson (FRS 1965), were later to be awarded Nobel Prizes. From the time of his appointment in 1946 as Reader, Tompkins was the senior physical chemist, but when the college decided to create a Chair of Physical Chemistry in 1954, it turned to R. M. Barrer (FRS 1956), who was then Professor of Physical Chemistry at Aberdeen. From this point on, Tompkins took no interest in policy matters involving the department or the college. Nevertheless, independently of each other, Barrer and Tompkins created an enviable reputation for the college in the field of surface science.

His contributions as Editor of the Faraday Society were remarkable. With just one assistant, for very many years he acted both as Editor and as desk editor, marking up every paper in green pen for the printer, Aberdeen Press, in his inimitable style—all unnecessary phrases suffering the heavy green line. Yet it was only when the Faraday Society was incorporated into the Chemical Society in 1971 to form what is now the Royal Society of Chemistry, and the publication of the journal was taken over by the Society, that the cost-effectiveness of this one-man dynamo was fully realized. He served as President of the Faraday Division of the new amalgamated society in 1978–79.

Tompkins—Tommy to his friends, and Fred (out of earshot) to his research group—was never an easy person socially, and while many of us enjoyed his dry, sharp wit, his ability as a raconteur and his patience, others did suffer from his sharp tongue. Strangely, although he instilled great vigour and creativity into his research, he showed, as Editor, little respect for developments in theoretical chemistry, and the *Transactions of the Faraday Society* was, as a result, always strongly biased towards experiment. Despite his formal, ordered Victorian manner and his love for the loneliness of gardening, he did show great warmth and encouragement to those whom he hoped to see succeed. He had, above all, the rare ability to create an environment in which the best research could flourish.

ACADEMIC CAREER AND HONOURS

- 1934–37 Assistant Lecturer, King's College, London
- 1937–46 Senior Lecturer University of Natal
- 1946–47 ICI Fellow
- 1947–59 Reader in Physical Chemistry, Imperial College of Science and Technology
- 1959–77 Professor, Imperial College of Science and Technology
- 1955 Elected FRS
- 1950–77 Editor and Secretary, Faraday Division of the Chemical Society
- 1978–79 President, Faraday Division of the Chemical Society
- 1971 DSc (Hon), University of Bradford

ACKNOWLEDGEMENT

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BIBLIOGRAPHY

A full bibliography appears on the accompanying microfiche. A photocopy is available from The Royal Society's Library at cost.

