

Professor Emeritus Sir Owen Saunders— an appreciation



Portrait by Michael Noakes

OWEN ALFRED SAUNDERS, who celebrates his 80th birthday on 24 September 1984, was the son of an engineer deflected from his natural engineering bent by a number of early influences. All of us rely to some extent on chance meetings, people whose impacts change our whole life, yet, in so many cases lead to the ultimate niche in which we make the final contribution. So long as we find that final niche the devious paths which such chance and opportunity force us to follow can be of enormous value in enriching our lives and our service to others.

Such is the case of Owen Saunders: academic abilities far above the average, an aversion for games that condemned him by his fellow pupils to loneliness at

school; an urge to study science subjects which alienated him from school masters whose only view of academic prowess was the classics: a chance meeting with Professor Barrow on the stairs that got him into an otherwise over subscribed course in Chemistry at Birkbeck College. Add to this the inspiring influence of outstanding men such as Professor Searle, Horace Lamb and Lord Rutherford (an adventitious privilege very few could claim!) and the path which Sir Owen was to follow began to map itself.

His path to engineering was through a regular science course: first at Birkbeck College of London University from 1921 where he took a general science degree and afterwards at Trinity College, Cambridge

(on a Sizarship he won in 1922) achieving First Class Honours in the Mathematical Tripos at Part I and Upper Second Class Honours in Physics at Part II.

With two years of a Senior Scholarship still to run at Trinity, Owen Saunders was offered research under Lord Rutherford who, it is said, was taken aback by his request for a branch of Physics other than atomic research!

It was Professor R. V. Southwell in the end who made the next link in the chain by offering a mathematical problem in elasticity, but soon afterwards (in 1926) Saunders decided to leave Cambridge to undertake applied research in the Fuel Research Division of the then Department of Scientific and Industrial Research, under Dr C. H. Lander. Astonishingly enough, at the same time he took (June 1927) the London University External B.Sc. in Mathematics and gained First Class Honours in Parts I and II, later topping this out with an M.Sc.

The move to the Fuel Research Station set the final course to engineering that Sir Owen was to follow. Sir Henry Tizard and Dr Lander asked him to look into the design and performance of industrial furnaces. He soon found that little science was involved and this set Saunders—with Dr Fishenden who was already at the Station—on collecting together such information as there was on applied heat transfer. The now world famous book *Calculation of Heat Transmission* was published under their joint authorship in 1932.

In that year, Lander became Professor and Head of Mechanical Engineering at Imperial College (of which Tizard was Rector), Saunders and Fishenden moved to the College with him and that long and fruitful development of the fundamentals and applications of fluid flow and heat transfer was set fairly on its course. (Interesting to note that Sir Richard Southwell followed Tizard in the Rectorship of Imperial College.)

From Lecturer in 1932, to Reader in 1937, to Professor of Mechanical Engineering and Head of Department in 1946, Sir Owen Saunders' active participation in a wide range of major engineering technologies continued unabated until 1964 when the higher echelons of university management called him to the Pro-Rectorship of Imperial College, then Acting Rector and finally Vice-Chancellor of the University of London.

During all this he was active on Government Committees, as Consultant to major companies and to the Admiralty and Deputy Chairman of IRD Newcastle, a post he still holds. His outstanding contribution and leadership in the International Flame Research Group is well known.

It was as a final year undergraduate that I came under

Sir Owen's influence when I attended his course of lectures on Heat Transfer. Like him a Scholarship holder, with a year to run after a first degree, I was inspired to join him as a research student. As a supervisor, Sir Owen was concerned to get the specification of the problem clear and the method of attack well laid, but then expected his students to show initiative and determination to carry through the work. We went to him when difficulties arose or equipment was needed when his insight and understanding showed to advantage. So his group of research students and assistants prospered and formed their own caucus and helped each other—excellent work was done—but we also developed our own lunchtime occupations. By putting four desks together a reasonable approach to a table tennis top resulted. Usually play was restricted to lunchtime but once enthusiasms ran away with us and at three o'clock the battle was in full cry when, to our disnay, Saunders walked in. "Ah, table tennis!—I haven't played for a long time—can I join in?" Despite his professed aversion to games he turned out to be no insignificant player!

Many of us remember his Christmas parties and the conjuring tricks—he was a member of the Magic Circle—his interest in music and the arts all of which he managed to keep alive in an exceptionally busy life.

Public honours have followed one another in steady succession. Fellowship of the Royal Society 1958, Knight Bachelor 1965, Founder Fellow, The Fellowship of Engineering 1976, President (1961) and Honorary Fellow (1965) of the Institution of Mechanical Engineers and Honorary membership of the ASME, Japan Society of Mechanical Engineers, Honorary Doctorates, and the Max Jakob Memorial Award of the ASME, an honour of which he is rightly proud.

Professor Emeritus Sir Owen Saunders can look back with satisfaction on a long life of outstanding contribution to the progress and well being of many aspects of mechanical engineering and of academic work.

Max Jakob once said "There is scarcely a corner (of heat transfer) in which something he has written is not to be found." As this issue will show, this comment is well proven and we are the better for it.



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