

## Obituary:

### Dr William Bleloch

With the passing of Dr William Bleloch on 20th June 1991, we lost not only a colleague and a good friend but a man who made a very significant contribution to the industrial development of South Africa. He can rightly be called the father of the electrochemical and electro-metallurgical industries in this country, since his ideas and dedicated work were directly responsible for the development of these large industries as we know them today.

Dr Bleloch was born on 9th February 1906 in Johannesburg. After matriculating at St Andrew's College, Grahamstown, he proceeded to the University of the Witwatersrand, where he was awarded a B.Sc. degree with first-class honours in 1927, and an M.Sc. degree in 1928.

He then went to the University of London, where he was awarded a Ph.D. in chemical engineering, with first-class honours in chemistry, in 1930. Here he met Miss Jean Denny, an American citizen whom he later married on his return to South Africa. Three sons and two daughters were born of the marriage.

After 10 years' engineering experience in industry, Dr Bleloch enlisted in the South African Engineering Corps at the outbreak of World War Two. He was commissioned by the Chief of the General Staff to design and operate the plant at Klipfontein for defence purposes.

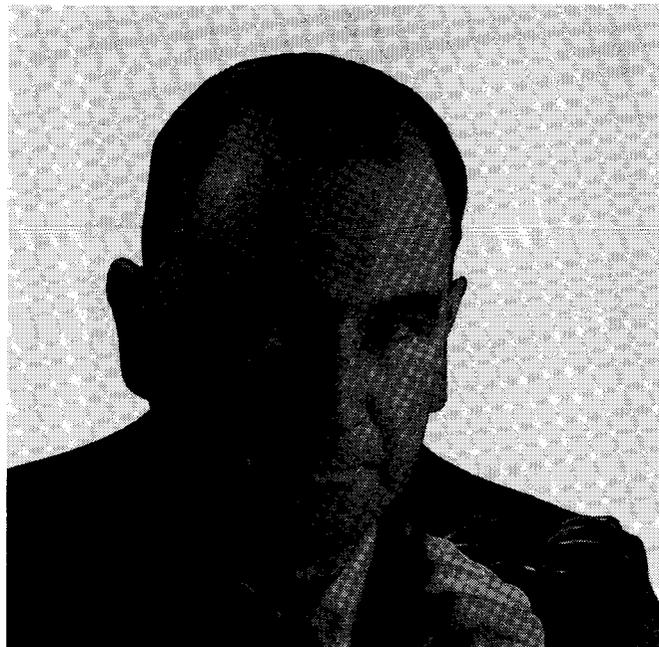
Towards the end of the war Colonel Bleloch (as he then was) was responsible for converting the Klipfontein factory to the production of DDT. In April 1947 he presented a paper on the subject to the Chemical, Metallurgical and Mining Society of South Africa, for which he was awarded the Society's Gold Medal. Subsequently he presented a paper to the South African Institute of Engineers on the large-scale production of ethylene, which it was said entitled him to be regarded as the pioneer in South Africa of the large-scale production of synthetic organic chemicals.

As early as 1934 Dr Bleloch had proposed a scheme for the recovery of vanadium and pig iron from vanadiferous magnetite. In the post-war years he turned his attention once again to metallurgical, and particularly electro-metallurgical, projects.

In 1948 he went to Norway with 100 tons of bushveld magnetite, from which vanadium was recovered and sold, and pig iron was produced and converted to steel.

Details of his visionary concept were provided in the paper published by The South African Institute of Mining and Metallurgy in March 1949, entitled 'The electric smelting of iron ores for production of alloy irons and steels and the recovery of chromium and vanadium'. It would, however, take nearly 30 years for his dream to be fully implemented.

In the 10 years following the publication of the paper, Dr Bleloch directed the construction and



operation by Wire Industries Steel Products and Engineering Company Limited (WISPECO) of a ferrosilicon plant at Witbank under Ferro Metals.

Dr Bleloch served as President of The South African Institute of Mining and Metallurgy in 1956/1957. Much impetus was given to his proposals by his presidential address to the Institute entitled 'Megawatts and metals in South-eastern Africa'. In a wide-ranging review, Dr Bleloch outlined developments throughout the world in the use of electro-metallurgy for the production of metals and alloys.

The years 1959/1960 signalled the start of unprecedented metallurgical developments, resulting in the commissioning of the RMB (Rand Mines Bleloch) Alloys low-carbon ferrochromium plant (April 1964), The Transvaal Alloys low-carbon ferrochromium plant (1964), The Southern Cross Steel plant (December 1966), and the Highveld Steel and Vanadium plant (February/December 1968).

The later merging of RMB with Southern Cross Steel to form the Middelburg Steel Company permitted a high degree of flexibility in the production balance of steel and alloys.

The formation and development of Highveld Steel and Vanadium under Dr Bleloch's guidance is a story all on its own.

Dr Bleloch has achieved the further distinction of publishing yet another paper at the age of 82. This paper covers seven years' work and is entitled 'Refining of steel to below 0,01% carbon by the oxy-hydrogen lance without argon'.

In 1975 the University of the Witwatersrand conferred on Dr Bleloch the degree of Doctor of Science in Engineering, *honoris causa*.

In 1981 Dr Bleloch was awarded the Brigadier Stokes Award, which is presented for the highest achievement in the mining and metallurgical industry by The South African Institute of Mining and Metallurgy.

He has also been awarded gold medals for two of his papers published in the *Journal of The South African Institute of Mining and Metallurgy*.

The South African Institute of Mining and Metallurgy pays tribute to a great man, and extends its sympathy to his family.