

# General Meeting and Colloquium

*A General Meeting and Colloquium was held in Kelvin House, Johannesburg on Wednesday 29th September, 1971.*

The theme of the Colloquium was "The Ferro-alloy Industry".

Prof D. D. Howat (President) was in the Chair.

The meeting was attended by 106 delegates and was opened by the President at 10.05 a.m.

## OBITUARY

*The President:* "It is my sad duty to announce the death of G. C. Needham, Fellow, who joined the Institute in 1966 and passed away on 27th September, 1971.

As a mark of respect to the memory of the deceased and in sympathy with the bereaved I would ask you all to rise and observe a few moments silence."

## MEMBERSHIP

*The President:* "I have much pleasure in announcing that the names of the following candidates, having been published in accordance with By-Law 5.2.2, Council has elected them to membership of the Institute.

*Fellows:* Richard Lloyd Blandy, Brian Roger Borton, Brian Teversham, Peter Donald Dickson.

*Members:* Frederick Brian Peacock, Peter John Stacey, Kenneth Niles Thanstrom, Byron J. Hayley, Ian Flemming Buchan, Abraham Hercules le Roux.

*Graduate:* Ian William Coy.

*Students:* Peter Boesley James, Kenneth Brian Perel.

## TRANSFERS

*From Member to Fellow:* Cecil Eugene Fivaz, Peter Edwards.

*From Student to Graduate:* Roy Stavely Traviss.

*From Student to associate:* William Mitchell.

I welcome the new members to the Institute and congratulate those members who have been transferred to a higher grade.

## COLLOQUIUM

The first paper, presented by Mr S. Selmer-Olsen, Consulting Metallurgist, Amcor Limited, on 'Trends in Ferro Alloy Production' was published in the May issue of the Journal and comprised information and data relating to new developments in ferro alloy production in various parts of the world.

This was followed by a paper—'Conductivity and Viscosity Properties of Slags produced in ferro-alloy manufacture' by D. I. Ossin *et al.* This was a record of laboratory test work on slags containing both lime and magnesia, corresponding with the composition of slags encountered in the production of ferro chrome alloys when a dolomite flux is employed.

The third paper—'Review of the work of the Pyro-

metallurgical Research Group of N.I.M. and Metallurgy Department, Wits.' presented by Dr P. R. Jochens, leader of the Research Group, outlined the progress made on ten different research projects presently under way in the Department of Metallurgy. These projects range from studies of the kinetics and mechanism of the reduction of chromite ores through the determination of the activities of MnO in slags to phase studies and melting point determinations in the alloy systems Cr-Fe-Si-C and Cr-Fe-Si.

A new feature of this Colloquium was the introduction of the discussion panel composed of four or five individuals known to have special knowledge or interest in the subject under discussion. Mr J. J. Coetzee was chairman of the first panel, Professor D. D. Howat of the second and Dr R. E. Robinson of the third.

During the discussion of Mr Selmer-Olsen's paper an interesting contribution was made by Mr Jack Hayley of Transalloys (Pty.) Limited who pointed out that the lowest power cost in the U.S.A. was that from the TVA at 6 mils per unit (0.43 cents S.A.) while costs from other sources were 7 to 8 mils per unit (0.50 to 0.57 cents S.A.) He also referred to the use of 'pile sintering' of ore fines plus coke at certain ferro alloy plants in the U.S. and to the recent practice of 'graphitising' the paste used for Soderberg electrodes.

The last session in the afternoon was devoted to a group discussion on 'Practical problems in Arc Furnace Operation', Mr H. R. Reid of Middelburg Steel Alloys (Pty) Limited occupying the chair, members of the panel being Mr J. Meintjies (Rand Carbide Limited), Mr J. Benn (Amcor) and Mr E. J. Jackson (Transalloys (Pty.) Limited).

Mr Reid initiated the discussion by talking of the design and composition of electrode shoes, mentioning the use of the 85/15 Cu/Zn alloy and the comparison of hollow shoes and shoes cooled by tubes. Mr Meintjies discussed electrode management with particular reference to breakages, and dealt with casing and fin design and the welding of fins.

Mr Benn dealt with aspects of closed top furnace operation with particular reference to the control of eruptions in the furnace and indicated that preheating of the raw materials might be well worth considering together with the development of a system for the detection of the water vapour present.

Mr Jackson was concerned with shells, linings, refractories and tap holes. He deprecated the use of oxygen for opening the tap hole emphasising how uncontrolled use of oxygen led to loss of shape of the tap hole and quite severe burning out of the front hole resulting in time and labour in repairs.

A notable feature of the Colloquium was the free discussion 'from the floor' of the hall. Many valuable and highly pertinent contributions were made spontaneously and usually in reply to some controversial topic raised by the discussion group.