

Annual General Meeting of the Institute

The Annual General Meeting of the Institute was held in Kelvin House, Johannesburg, on Wednesday, 22nd August, 1973.

Dr J. P. Hugo (President) was in the Chair.

There were also present 64 Fellows, 20 Members, 5 Associates, 3 Students, and 34 Visitors, making a total of 126.

The President declared the meeting open at 4.05 p.m.

OBITUARIES

The President: It is my sad duty to announce the death of the following members of the Institute: C. Boocock, R. J. G. Moore, M. P. Pearse, and A. I. Sussman, all Fellows, and W. T. Dalling, a Life Member. As a mark of respect to the memory of the deceased and in sympathy with the bereaved, I ask you to rise and observe a few moments' silence.

MINUTES

Die President: Item twee op die agenda is die bekragtiging van die notules van die jongste Algemene Vergadering van die Instituut. Daar die notules in die Augustus uitgawe van die Joernaal gepubliseer is, vra ek u toestemming dat dit as sulks bekragtig word. *Toestemming verleen.*

WELCOME TO VISITORS

The President: It is my very great pleasure to welcome all the distinguished guests who have honoured us with their presence this afternoon; in particular, a hearty word of welcome to the Honorary President of the Institute, Mr Plumbridge, the President of the Chamber of Mines. You are doubly welcome here, sir, and we thank you for your presence. Also to that old member and stalwart, the Honorary Vice-

President of the Institute, Mr Tommy Gibbs, the Government Mining Engineer—you're very welcome, Mr Gibbs.

Then, we are particularly privileged this afternoon to have an Honorary Member with us, the Minister of Mines for Rhodesia, Mr Dillon. You will recall that he honoured us with his company last year. Mr Dillon, we are very appreciative and hope that this is now a standing arrangement.

We are also honoured by the presence of some thirteen Presidents, Vice-Presidents, or Chairmen of our sister scientific and technical organizations. I shall rapidly read their names, but they must all feel assured that they are very welcome here today.

Firstly, one of our own Past Presidents and members, Mr Geoff Goode in his capacity as President of the Associated Scientific and Technical Societies of South Africa; Mr L. R. Robinson, President of the South African Institution of Mechanical Engineers, and Mrs Robinson; Mr G. Goedhals, President of the South African Institute of Electrical Engineers; Dr Antrobus, President of the Geological Society of South Africa, and Mrs Antrobus; Mr T. V. Dean, Vice-President of the Institute of Land Surveyors of the Transvaal, and Mrs Dean; Mr R. M. Stroh, President of the Mine Ventilation Society of South Africa; Mr Ken Steele, President of the Association of Mine Managers, and Mrs Steele; Mr Mike Gericke, President of the South African Council for Professional Engineers; Mr R. G. Matthews, President of the Institute of Mine Surveyors of South Africa; Mr P. H. Pettifor, President of the Institute of Production Engineers, London, and Mrs Pettifor; Dr Nico Stutterheim, Chairman of

the South African Institute of Chemical Engineers, and Mrs Stutterheim; Professor F. A. van Duuren, Chairman of the Engineers' Liaison Committee in Pretoria; also, I haven't spotted him but I trust he is here—Mr Alex Bain, who is Chairman of this Institute's Witbank/Middelburg Branch. To one and all, ladies and gentlemen, a hearty word of welcome. Not last on our list, a word of welcome to Mr Eric Boden, the Manager of A.S. and T.S. We also have with us I trust, Dr Deist, and his good lady—Dr Deist will be figuring in our proceedings later this afternoon. Also Mr Barcza and Mrs Barcza. Mr Barcza, a former President of the Institute, also has a task to perform. Then, I hope two of our student prize winners are here—Mr Beetge and Mr Painting. Then we also have Mr Roberts, who is welcome in his capacity as co-author with Dr Deist.

Then, last of all, a hearty word of welcome to Dr Helen Glen (I am not sure whether she has arrived yet, but she is certainly due to come)—the new Honorary Editor of the Institute's Journal.

MEMBERSHIP

The President: I have pleasure in announcing that, their names having been published in accordance with By-law 5.2.2, the following have been elected by Council to membership in the following grades:

Fellows: W. G. Jayes and F. K. Wright

Members: D. W. Penman, A. W. Bryson, and D. L. Gibbs

Graduates: R. J. Adey, J. P. Bond, R. C. Dunne, G. M. Entwhistle, J. M. Rendu, J. P. S. Turner, and A. P. van Jaarsveld

Associates: A. Ellis, B. R. Hambly, A. J. Johansen, and G. W. Tregoning

Students: M. E. Dingle, A. J. Field, M. A. B. Plaskitt, and J. J. van Rensburg

Company affiliates: Gardner-Denver Company South Africa (Proprietary) Limited, and Hudemco (Proprietary) Limited.

Dan verder, oorplasing na hoër peile van lidmaatskap:

Van Graduaat tot Lid: J. M. McLuskie

Van Assosiaat tot Lid: A. V. S. Meyer

Van Student tot Lid: D. I. Watson
Van Graduaat tot Assosiaat: A. E. W. Fletcher

Van Student tot Graduaat: P. Smith.

Ek is seker dat u almal by my sal aansluit as ons ons nuwe lede hartelik gelukwens en verwelkom in die Instituut.

PRESENTATION OF MEDALS

The President: This year the Institute is presenting two gold medals: one to Dr Deist, and the other to Professor Sichel. Unfortunately, Professor Sichel is attending a conference overseas and can't be with us this afternoon.

I have pleasure in inviting Dr Deist to step forward to receive his award, and Mr Barcza to introduce him to us. Before putting Mr Barcza to the word, I wish to read you the citation: 'The gold medal awarded to Dr Deist is for the significant contributions made by him to the application of computer technology in the mineral industry, as manifested by several papers over a number of years; and in addition for his papers entitled "Aids to planning and production in coal mines" with Mr M. P. Roberts as co-author, and "Computer applications in rock mechanics" with Mr E. Georgiadis and J. P. E. Moris as co-authors'.

Mr Barcza: The mining industry is fortunate in obtaining occasionally some of the cream of the graduates from the University of the Witwatersrand.

In 1964, acting as a talent scout, I approached the head of the Electrical Engineering Department of the University, Professor Bozzoli as he then was, in search of a graduate who might be interested in carrying out a particular research project in the field of rock mechanics. Professor

Bozzoli told me that there was a young graduate working with I.B.M. in Germany who had an outstanding academic record. Professor Bozzoli said, 'Get him back before South Africa loses him'.

Born in Westphalia in Germany in 1937, Frank Deist came to South Africa in 1953. Late in that year he joined the Standard 8 class, but, when he matriculated at Krugersdorp Boys' High School in 1955, he achieved four distinctions. In 1959 he graduated from Wits. with distinction—indeed he had only one second class pass throughout his university career and that was in Engineering Drawing. Otherwise, all his passes were in the first class. He was awarded the Chamber of Mines Gold Medal and Bursary. Between 1959 and 1962 he lectured at the University and obtained his Master's degree. From 1962 to 1964 he worked in Germany.

And this is when we got him back to South Africa to take up a fellowship with Rand Mines. Frank Deist arrived, took a look at the mines, and tackled a highly intricate part of our rock mechanics problem. He used periodically to give me lectures on his work. I don't pretend that I understood his mathematics, but I was most impressed by his reasoning ability and by the clear exposition of his method of approach. It was about a year later that he produced a large manuscript with a few crossings-out—pages and pages of calculations—and told me that this was his Ph.D. thesis and his report. When I asked how many copies of the first draft he wanted typed, he looked surprised and said that this was his final copy—and it was. To someone who has to have at least two drafts of a simple report before it is ready for submission, this was an unparalleled experience for me.

For his thesis 'Development of a non-linear continuum approach to the problem of fracture zone and rock-bursts and feasibility study by computer', Frank Deist earned his Ph.D. in 1966. Between 1965 and mid-1968 he lectured at Wits., and then joined the Collieries Research Laboratory, where he is now Assistant Director.

His early love for computer work has been maintained, and he has

devoted the last few years to the study of the application of computer technology in the mining industry. During this period he has published several papers, which have contributed greatly to the rational planning of mining layout and mining operations. During the last year he has presented two papers: 'Aids to planning and production in coal mines' (with M. P. Roberts) and 'Computer applications in rock mechanics' (with E. Georgiadis and J. P. E. Moris). These co-authors are not members of the Institute and thus do not qualify for an award. It is particularly these papers that have merited the award of the Institute's gold medal.

Dr Deist has achieved a great deal in his relatively short career. He is obviously a clear thinker and a high performer. Much as he has already contributed to our knowledge about computer applications, I have no doubt that he will contribute even more in the future.

I have very great pleasure in asking Dr Deist to receive his gold medal from our President.

Dr Deist: Mr President, ladies, and gentlemen, I feel greatly honoured by the award presented to me this afternoon. I must stress, however, that the contributions for which I am being rewarded represent to a large measure the results of solid team work. In thanking the Institute, I would like therefore to view this medal as an expression of your recognition of the achievements of my colleagues at the Chamber of Mines as much as my own. In fact, since the successful application of computer systems crucially depends on the abilities and co-operation of both designers and users, I equally include those men in the industry without whose substantial contribution this type of work could at best be of academic interest and never of practical value.

I would like to thank Mr Barcza for his very kind words of introduction. When I heard that he was going to be my proposer this afternoon, I was very pleased indeed. After all, it was his and Professor Bozzoli's persuasive efforts that lured me away from building computers to using them—in the mining industry at that. On occasions like

this one feels that it was a right switch, and I would like to take this opportunity of expressing my very sincere gratitude to Mr Barcza for being of such tremendous guidance and assistance in introducing me to my present field of activity some eight years ago. Those stimulating discussions at Rand Mines generated many ideas that, it would seem, have proved to be of some value to the industry.

Furthermore, I would like to pay tribute to Dr Salamon, under whose direction most of these developments have taken place. His contributions, particularly in the field of rock mechanics, have often served as the very foundations of our work. Above all, however, I would like to express my appreciation of the stimulating atmosphere and spirit of co-operation that he has managed to generate and maintain in his laboratory over the years.

Finally, I would like to thank Dr Rapson, the Chamber's Research Adviser, for his enthusiastic support and guidance in establishing and building up our Computer Applications Division.

Mr President, as an engineer (granted, an electrical engineer), I tend to judge achievements in relation to their practical value. In this regard we have only scratched the surface. However, I am convinced that in this field considerable progress is possible and will be achieved. Once again, thank you Mr President.

The President: Thank you, Dr Deist. Gentlemen, as I mentioned, Professor Sichel is unfortunately overseas, so his medal will be presented *in absentia*. I again call on Mr Barcza to introduce him. While Mr Barcza comes forward, I'll read the citation: 'Gold medal awarded to Dr Sichel for his paper entitled "Statistical valuation of diamondiferous deposits"'.
Mr Barcza: Mr President, ladies, and gentlemen. I am obviously very fortunate in the calibre of my friends—hence I am on the rostrum again.

It is not for the first time that the Institute has awarded its gold medal to Professor Sichel. In 1960 he received a gold medal for a paper, presented jointly with C. H. Coxon, entitled 'Quality control of routine

mine assaying and its influence on underground valuation'. When introducing Dr Sichel, as he then was, Mr H. Britten reviewed Dr Sichel's career and achievements for our records in a most appropriate way, saying that Dr Sichel was already at the pinnacle of his profession. To mix my metaphors with those of Henry Britten, I am glad to say that Professor Sichel has not rested on his laurels, and this is gratifying for the Institute and for the mining industry.

Indeed, Herbert Sichel is not a person given to resting. His achievements since 1960 have been even more distinguished and productive than those of the earlier part of his career. Since 1960 he has published some twenty-six further papers, and has been made a Fellow of the South African Statistical Association, of which he is a founder member and Past President. He has attended a number of international conferences, and the reason for his absence this afternoon is that he is attending a meeting of the International Statistical Institute in Vienna, where he is presenting a paper.

During recent years he has lectured at the Hebrew University of Jerusalem in Israel and at Melbourne University in Australia. In 1969 he became the first President of the Operations Research Society of South Africa. During the same year he was appointed Professor in Statistics and Operations Research at the Graduate School of Business Administration of the University of the Witwatersrand, first on a part-time basis and in 1970 on a full-time basis. He then gave up his nearly twenty-year-old private consulting practice, and devoted his full time to passing on some of his vast knowledge and experience to post-graduate students.

During 1971 he was appointed Acting Director of the Graduate School, a post which he relinquished earlier this year; he is, however, continuing as Professor of Statistics and Operations Research.

He will now receive *in absentia* his second gold medal, a rare distinction, for his paper entitled 'Statistical valuation of diamondiferous deposits'. Like most of his papers, this breaks new ground in the field of

statistics and its practical application to mining problems.

I have been picking Professor Sichel's brains and have been able to benefit from his stimulating mind for a quarter of a century, on and off. I have come to regard him as a friend, and it gives me particular pleasure to pay him tribute tonight. I now ask Professor Plewman to receive the award from the President on behalf of Professor Sichel.

Professor Plewman: Mr President, Mr Minister, ladies, and gentlemen. I feel very privileged that Professor Sichel has selected me to receive the Institute's gold medal on his behalf. As Mr Barcza has indicated, Professor Sichel is a scientist of world standing, and the paper for which he is being honoured has made a major contribution to the science of valuation of discrete particle deposits.

Professor Sichel specifically asked me to express his extreme disappointment that he is not able to say thank you in person.

He has also asked me to say, and I quote, 'I feel extremely honoured to be awarded our Institute's gold medal. As a person who started his professional career as a junior underground official, and who has been closely associated with this great South African mining industry ever since, there exists no more coveted a prize than the one given to me today'.

Finally, I am asked to express to our Past President, Mr Barcza, Professor Sichel's sincere appreciation for having introduced him today.

STUDENT AWARDS

The President: As you may be aware, the Institute each year awards prizes to fourth-year students in mining or metallurgy who have presented projects of outstanding merit. In the last year we awarded three such prizes to the following: Mr F. G. E. Beetge, for his paper entitled 'Investigation of sigma phase and descaling of the 26 Cr-6 Ni stainless steel'; Mr A. L. Painting, for his paper entitled 'A study of the end effects in specimen cores under compression tests with a view to eliminating these end effects'; and Mr K. L. M. MacDonald, for his paper entitled 'Automation of a tippler station'. I have pleasure in

asking Mr Beetge and Mr Painting to step forward to receive their prizes. Unfortunately, Mr MacDonald wasn't able to be present this afternoon.

ANNUAL REPORT OF THE COUNCIL AND ACCOUNTS FOR THE YEAR ENDED 30th JUNE, 1973

The President: A copy of the Annual Report was placed on each chair before the meeting. I therefore have no intention of presenting the report in detail. However, please bear with me while I attempt to highlight a few of the most important matters.

Membership increased from 1702 to 1774, of which 64 are Company Affiliates—an increase of 40 in this grade of membership. I am sure you will join me in welcoming this significant and healthy development, which enhances closer collaboration between the Institute and those companies engaged in mining and metallurgy.

Die Instituut se Joernaal het weereens 'n suksesvolle jaar aangeteken. Nie minder nie as 38 referate, wat 'n breë spektrum van onderwerpe gedek het, is gepubliseer. Graag rig ek 'n besondere woord van dank aan mnr. Pieter van Rensburg vir sy bekwame optrede as Programbestuurder. Ons dank ook aan ons Ere-redakteur, mnr. Hildred Carlisle, wat na jare getroue diens in Februarie vanjaar met sy afrede uit die mynbedryf die tuig neergelê het. Graag verwelkom ons ons nuwe Ere-redakteur, dr. Helen Glen, met die volle vertroue dat onder haar bekwame pen die kwaliteit en leesbaarheid van ons Joernaal die hoogste peil sal handhaaf.

There is overall consensus that the institution of quarterly colloquia in place of monthly meetings has been a great success. During the year under review, four very interesting and successful colloquia were held, two on metallurgical and two on mining topics. At all these colloquia, an over-full house presented the only problems. Our sincere thanks are due to the members of the Metallurgical and Mining Colloquia Committees, and in particular to their respective Chairmen,

Dr R. E. Robinson and Mr Lyn van den Bosch, for an excellent job.

Vier aangename en leersame ekskursies is gedurende die afgelope jaar onderneem en die Voorsitter van die betrokke komitee, mnr. P. A. von Wielligh, en sy komiteedele moet geluk gewens word op die puik reëlings wat getref is.

A completely new venture was undertaken during the year, namely the running of a Winter School on 'Mineral processes: their analysis, optimization and control'. Two overseas experts were the major lecturers, and from all accounts this School was an outstanding success—so much so that the Institute plans to undertake similar schools in the future. Grateful acknowledgements are due to Dr Robinson and his committee for their initiative and hard work in notching-up a most worthwhile achievement.

'n Verdere onderneming wat met groot welslae bekroon is, is die instelling van 'n informele Piro-metallurgiese Besprekingsgroep onder die bekwame leiding van dr. Peter Jochens, aan wie ons groot dank verskuldig is. Daar word beplan om ook hierdie aktiwiteit geleidelik tot 'n breër omvang uit te bou.

In concluding my presentation of the Annual Report, I wish to record my sincere appreciation to the Office Bearers and the entire Council for their unstinting support and hard work during my year of office. I shall be forever grateful to them for making my task interesting, pleasant, and crisis-free. My sincere thanks also to the real worker, our Secretary, Miss Jane Theron. Jane has done, and is doing, an excellent and efficient job, and I can assure you that the day-to-day tasks of running the Institute are in very capable hands. The continued support and wise counsel of Mr Eric Boden, Manager of A.S. & T.S., is, as in the past, gratefully acknowledged.

Therewith, ladies and gentlemen, I have much pleasure in moving the adoption of the annual report for the year. Before calling for a vote, I shall ask the Honorary Treasurer, Mr Denis Maxwell, to review the financial position.

Mr Maxwell: Mr President, ladies,

and gentlemen. It gives me great pleasure to take advantage of this opportunity of saying something about the finance section of the Annual Report.

Probably the most important financial event of the year for the Institute was the demise of the stock-broking firm P. Wilson and E. Mansfield and Company—they were our stock brokers, and we had over R10 000 with them on call at the time of their liquidation. We have no idea at this time how much of this we shall recover, but we are certainly not expecting very much. Nevertheless, in spite of the large write-off involved, it is gratifying to be able to report another substantial surplus.

Once again, I have to express my appreciation to the organizers of our colloquia and symposia, who have ensured that these functions operated at a profit and were therefore not a burden on the finances of the Institute.

In addition, the proceedings of the Open-pit Symposium are still an important source of funds, and now we are starting to receive substantial revenue from the APCOM Proceedings.

Unfortunately, this year there was a fairly substantial loss on the Journal. However, I do not feel too bad about this particular loss. There are many of our members who are not able to participate directly in the activities of the Institute and for whom therefore the Journal is the sole link with the Institute. I feel it is some compensation for them to know that the Journal is to some extent subsidized by other activities.

Our problem with regard to registering shares in the Institute's name is mentioned in the Annual Report. I'm pleased to be able to tell you that this has now been solved. The solution involved some minor changes in the Constitution, stating among other things that the Institute is capable of suing and being sued. When you see the relevant notice, please do not jump to the conclusion that we are about to instigate expensive litigation.

With regard to the future, I feel confident that various measures taken by Council in recent years

have provided a sound foundation for the future financial welfare of the Institute. As I told you last year, it was our intention to use our increase in funds to expand our activities and provide more services. Our plans had to be postponed because of the debacle of Wilson and Mansfield, but now that the position is clearer, I am sure that it will not be long before these plans are formulated.

It is with very mixed feelings that I am handing over the reins of the office of Honorary Treasurer. I have enjoyed doing the job immensely. I have at all times had wonderful co-operation from all members of the Council, and I know that I shall miss the work badly. However, I feel strongly that it is important that no incumbent of this office is allowed to get into a rut. I do not by any means feel that I am in a rut, but I have been here for five years, and I am minded of Robert Townsend who says in *Up the organisation*, 'If the Chief Executive doesn't retire gracefully after five or six years, throw the rascal out'. I know I am not the chief executive here, but I am not taking any chances! What makes it particularly easy to retire gracefully is the knowledge that Pieter van Rensburg has succeeded in twisting Keith Douglas's arm and persuading him to take over as Honorary Treasurer. Keith brings a world of business acumen to this job, which ensures that the financial affairs of the Institute will be in very competent hands. Keith is already a very busy man, and we are indeed grateful to him for agreeing to accept the position.

It is now my pleasant duty to convey to Jane Theron, our secretary, and to her assistant, Beth Miller, and to all the Kelvin House staff associated with them my thanks and appreciation for their hard work and co-operation during the year. I should also like to say a special word of thanks to Mr Trueman, who looked after our accounts, who was always prompt in producing them, and who always has the answer to awkward questions.

Ten slotte mnr. die President, wil ek u graag van harte gelukwens met die heel besondere wyse waarop u

die afgelope jaar die sake van die Instituut behartig het. Ons is veral erkentlik teenoor u vir al die tyd wat u aan hierdie taak bestee het, ondanks die feit dat u so ver van die stad af woon. U het al 'n slag of wat probeer voorgee dat u as gevolg hiervan u pligte soms versaak, maar dié van ons wat na aan die hart van sake staan, weet goed genoeg dat dit blote beskeidenheid is wat so praat. I now have much pleasure, Mr President, in seconding the motion for the adoption of the Annual Report and Accounts.

The President: Thank you, Mr Maxwell. Ladies and gentlemen, I am sure you are all as pleased as I am to hear how healthy the finances of the Institute are. I just want to assure you that this happy state of affairs is in no small way due to the unfailing devotion and efforts of Mr Maxwell. As he has stated, he has now decided to take a rest after many years of service. I am sure you will join me in recording a very hearty vote of thanks to him for his very sterling service.

I now request the formal adoption of the Annual Report and Statements of Accounts. *Agreed.*

DECLARATION OF ELECTION OF OFFICE BEARERS AND MEMBERS OF COUNCIL FOR THE YEAR 1973/1974

The President: I have pleasure in announcing that, in accordance with Clause 3.3 of the Constitution, the retiring Council has elected the following as office bearers for the ensuing year:

President: Mr P. W. J. van Rensburg

Vice-Presidents: Professor R. P. Plewman and Dr R. E. Robinson

Honorary Treasurer: Mr J. K. E. Douglas

Immediate Past President: Dr J. P. Hugo.

I shall now read a letter from the Scrutineers declaring the election of Members of Council for the year 1973/1974: 'We have to report that we have inspected the nomination papers for Members of Council for the 1973/1974 session and have found that the ballot papers sent out to Corporate Members of the Institute were in order. There was a return of 498 ballot papers, repre-

senting a 41,5 per cent ballot. As a result of our scrutiny, we find that the following members have been elected: M. G. Atmore, G. H. Grange, P. R. Jochens, J. G. Kirchner, D. I. Legge, W. W. Malan, M. D. G. Salamon, L. W. P. van den Bosch, D. A. Viljoen, and P. A. von Wieligh'.

I have pleasure in congratulating the re-elected members and also the newly-elected members to Council for the ensuing session. I wish to announce that, in terms of Clause 3.2.8 of the Constitution, Mr B. T. Hosking in his capacity as Chairman of the Witbank/Middelburg Branch will serve on Council. Under the same clause, Mr E. T. Wilson, Chairman of the Orange Free State Branch, will also serve on Council.

It's my further happy duty to announce that eleven of the Institute's Past Presidents have signified their willingness to serve on Council for the ensuing year. These are: Dr J. T. McIntyre; Messrs Henry Britten, M. Barcza, R. J. Adamson, and D. J. Maxwell; Professor J. de V. Lambrechts; Messrs D. M. Jamieson, H. E. Cross, R. C. J. Goode, and V. C. Robinson; and Professor Howat. It is always of inestimable value to this Institute to have its wise men serving on Council. It fosters continuity, and the experience of these Past Presidents does much to expedite and lead to wise decisions in Council. I therefore, on behalf of you all, welcome them and thank them for being prepared to serve again.

INDUCTION OF PRESIDENT

The President: Ladies and gentlemen, this brings us to probably the most important matter of business today, namely the induction of the new President, Mr Pieter van Rensburg.

What sort of man is he? Let me tell you. Mr Petrus Wilhelmus Janse van Rensburg was born in Cradock in the Cape some fifty-two years ago. He was educated at St. Andrews Preparatory School and subsequently at St. Andrews College in Grahamstown, where he matriculated. I note that he decided on a mining career after a school visit to Crown Mines during the Empire Exhibition in 1936. Just for the

record, the authorities in the gold-mining industry are doubtless now very pleased they spent that money in supporting the Empire Exhibition!

Pieter had his university training at Wits., where he graduated B.Sc. Engineering in Mining and Metallurgy *cum laude* in 1942. He was awarded the Chamber of Mines' Gold Medal and a post-graduate travelling scholarship. However, he immediately joined the forces and served with the Special Signals from December 1942 to August 1945. Most of this time he was attached to the South African Air Force, and part of this was spent in the Gold Coast.

On return from the war, he signed on at Robinson Deep as a graduate learner in September of 1945. He spent some ten months, between May 1946 and March 1947, in the United States and Canada at various mines, and a brief period at the Michigan School of Mines on a Chamber of Mines travelling scholarship. He returned to Robinson Deep, where he became Underground Manager in 1949.

He was transferred to Venterspost (like all men he had to go west) in January 1952, and served there until June 1954, whereupon he was transferred to Goldfields' Head Office in July of 1954. He has been there ever since in varying capacities. These include Group Production Engineer, Head of the Mine Valuation Department, Manager of the Management Services Division, Manager of the Investment Division, and now Manager of the Gold Division.

He is Chairman of Venterspost and Doornfontein Mines. He joined the Institute as a Student Member in 1941. He became an Associate Member in 1943, and a full Member—now a Fellow—in 1960, and he was elected to Council in 1966.

Dames en here, ek is seker u sal saamstem dat ons in Pieter van Rensburg oor die dienste van 'n uiters bekwame man beskik. Sy leierskap en sy hardwerk het op talle maniere al hulle self alombekend gemaak en bewys. Ek hoef u net te wys op een prestasie wat op sy kerfstok is, te wete, die onlangse APCOM Konferensie, wat met sulke groot welslae deur hierdie Instituut onder andere aangebied is. Ek is

oortuig daarvan dat voortgesette prestasies en welslae op Pieter van Rensburg se weg lê, en ons Instituut kan werklik baie dankie sê dat ons oor 'n man van sy kaliber beskik.

This, ladies and gentlemen, is your new President. You have heard his long and distinguished *curriculum vitae*. He is a worthy son of South Africa and a distinguished mining engineer, although I cannot resist pointing out that he obtained his degree in mining *and metallurgy*! The latter obviously serves to enhance his status. He is a man of rare wisdom and energy, and I have no doubt whatsoever that he will fill, with great distinction, the office of President of this Institute. Therewith, I am off the hook, and, following Mr Maxwell's quotation a short while ago, the rascal has been well and truly thrown out!

Pieter, I now ask you to assume the office of President of the Institute, and wish you a highly successful and very satisfying year of office.

Mr van Rensburg: Dr Hugo, honoured guests, ladies, and gentlemen. I am very conscious of the great honour that the Institute has done me in electing me to be its President for this coming year. Die hoë gehalte van dienswilling van my voorgangers is wel bekend aan almal, en ek wil u verseker dat ek my bes sal doen om daardie voorbeeld te handhaaf. Ek hoop julle verwagtinge sal vervul word.

It is with some trepidation that I take up the heavy responsibilities of this job, with all its wide-ranging and important duties, and having to follow in the footsteps of so many silvery-tongued orators. However, I have the help and assistance of a strong Council, and I can assure you that we shall do our best to carry on the smooth working machine that I have today inherited.

This past year has again been a most successful one for the Institute, and this is very largely attributable to the quiet efficiency of our Immediate Past President. I am greatly indebted to him for the kind things he has said about me, but I've had a whole bag of salt brought in just to take along with his sugary words!

As you all know, Dr Hugo, or J.P. as we all know him, is a very

busy man as Deputy President of the Atomic Energy Board, but, despite this and the fact that he is relatively far from Kelvin House as he has his office at Pelindaba, he has been most conscientious in attending to Institute business at all times. We are grateful to him for the large effort he put into his job as President, and we look forward to retaining his wise counsel, not only in this coming year as Immediate Past President, but also we hope, for many years to come.

I am particularly pleased to have two extremely able and enthusiastic Vice-Presidents to assist me in my tasks during this coming year. I can assure them that I shall be calling on their services on many occasions as we have a full programme of colloquia and symposia ahead of us. Both Bob Plewman and Robbie Robinson are men of energy who have taken a very active part in organizing our very successful series of colloquia, and in the field of education. I think both of them lie awake at night, thinking up ways of persuading more young men to enter our industry! This is going to be an important part of our programme for the future.

Dr Hugo has already expressed our thanks to Dennis Maxwell for his able control of our finances. Despite the unfortunate loss that was mentioned, he has managed to place our finances in much better shape than they have been for many years. We are sorry that we are losing him, but he has earned his rest, and I am deeply grateful to another Past President, Keith Douglas, who, in spite of his many other responsibilities, has agreed to take up where Dennis has left off.

During the year, our Honorary Editor, Hildred Carlisle, retired from his job as a Consulting Metallurgist, and he has moved to the mountains of the Hogsback in the Eastern Cape, where I paid him a brief visit earlier in the year. He did an excellent job in looking after our Journal, but he has been unable to persuade any other Council Member to undertake this onerous task, and here I talk with some authority. But we are fortunate that, through the good offices of Dr Robinson, we have been able to obtain the services of a

member of his staff. Dr Helen Glen is a perfectionist, and the standard of the Journal is a tribute to her keenness and attention to detail. We are extremely glad to have her to do this job for us.

I also want to add my thanks to our Secretary, Jane Theron, for her excellent work during the year, and I trust that we shall be able to retain her services for many years to come.

Now I would like to congratulate the re-elected members of Council, amongst whom we have a vast amount of ability, experience, and enthusiasm, and to welcome the new members of Council, who bring new blood and, we hope, new ideas to our affairs. Our Council also relies very heavily on the experience and wisdom of Past Presidents who have agreed to serve on Council. Our thanks are due to Mr Peter Lambooy and Mr Jimmy Reid, who have decided to take a break after many years of valuable service. I am most grateful to those Past Presidents who have again indicated their willingness to serve in the new year, and in particular I have much pleasure in welcoming back Mr Harry Cross and Mr David Jamieson after a break of several years.

I should now like to ask Professor R. P. Plewman, the Senior Vice-President, if he would take the seat on my right, and the newly-elected Vice-President, Dr R. E. Robinson, if he would take his place on the rostrum.

Dr Robinson: Mr President, honoured guests, ladies, and gentlemen. It is my duty and a very great privilege as the newly-elected Junior Vice-President to do two things: first, to offer the first formal congratulations to our newly elected President on behalf of the Vice-Presidents, and, second, to express our very sincere appreciation of the honour that you have done us in electing us to this office. Professor Plewman is, of course, an old hand at the game of Vice-President, and he has already shown what he can do in this regard. On my part, as a new boy I am filled with trepidation in that I doubt very much if I'll be able to live up to the example set by former Vice-Presidents of this Institute. Nevertheless, speaking for

Professor Plewman and myself, I would like to assure our new President that we shall do everything in our power to give him every assistance during his term of office. Thank you very much for our election.

Dr Jochens: Mr President, as one of the newly-elected members of Council, I should like to assure you of our assistance and support. Also, I should like to express my thanks to the Institute for the confidence shown in us by electing us.

APPOINTMENT OF AUDITORS AND HONORARY LEGAL ADVISERS FOR THE YEAR 1973/1974

The President: I wish to propose that Messrs Alex Aiken and Carter be appointed Auditors, and Messrs van Hulsteyn-Douglas be appointed Honorary Legal Advisers to the Institute for the coming year. *Agreed.*

GENERAL BUSINESS

The President: Is there anything that members wish to raise under this heading? If not, I shall ask Professor Plewman to take the chair while I deliver my address.

PRESIDENTIAL ADDRESS

Mr van Rensburg delivered his Presidential Address entitled 'Our mineral heritage'.

Professor Plewman: Mr President, I am sure that I speak for all members of this audience and, indeed, for all members of this Institute in saying thank you for your comprehensive review of the past, present, and future of our mineral heritage, and of its importance to the economy of this country. I have had the privilege of reading the full text, and it certainly is a fascinating story. This presidential address when published is sure to find a permanent place as a reference to the history of the mining industry, its growth, and its potential. I should like myself to underline the point that we must be careful not to dissipate this heritage. Now, it gives me great pleasure to invite Mr Robin Plumbridge, our Honorary President, to propose the vote of thanks.

Mr Plumbridge: Mr Chairman, Mr Minister, ladies, and gentlemen. It is indeed a very great pleasure and

privilege for me to be able to propose a vote of thanks to the newly-elected President of the South African Institute of Mining and Metallurgy. Knowing Pieter van Rensburg as I do, it comes as no surprise that he should have chosen as the subject of his address here this afternoon, our mineral heritage. On behalf of you all, I should like to extend to him our sincere congratulations on his most far-reaching and stimulating presentation. Time has not permitted the presentation of this address in full. However, I have had the privilege of seeing the full text, and I'd like to commend to you all for careful study this fine assessment of our mineral heritage. In his address, Mr Van Rensburg has skilfully drawn from the history of our great industry and shown how the rather sickly child has grown into a strapping young man. This has happened notwithstanding the views of the pessimists who have prophesied dire consequences every time the child has caught a cold. Far from dying a premature death, our mining and metallurgical industry is on the threshold of even greater things, and has the world as its oyster.

Ladies and gentlemen, I have deliberately likened our industry to a young man, because I believe there may be some people among us who do not regard the mining and metallurgical industry in South Africa as a young and vigorous industry that will provide a challenging career for young men in the future. I certainly cannot agree with this viewpoint, which persists despite overwhelming evidence to the contrary. Indeed, I believe that the industry offers unrivalled opportunities for any young man who is prepared to motivate himself and to tackle his career with vigour and determination.

We are living in rapidly-changing times, and the mining and metallurgical industry cannot isolate itself from these changes. Not only is technology changing, but so is the whole labour and financial structure. We have to guard against making change for change's sake, but, on the other hand, we cannot resist progress.

All these changes present tre-

mendous challenges to the existing managements of the companies operating in our industry. The financial merits of each change have to be carefully weighed, as the major proportion of our output is sold on world markets, where we have two choices: to remain competitive or die. Perhaps this economic fact of life in our industry has contributed more to its vigour than anyone really realizes. Certainly we must keep it in mind in the future.

Our industry is full of challenges, both now and in the future. Can we respond? I believe we can. We have the people with the talent and energy in the industry today, who, by pulling together, will take the industry to greater heights in the short term. I am confident that we shall attract new people to the industry who will become its talented leaders in the longer term.

In conclusion, one word about your newly chosen President. He is a man who has made a tremendous study of mining, not only in South Africa, but also in most of the rest of the Western World. He has been an extremely active member of your Institute for many years, and I am sure that he will fill his new position with great distinction, thus maintaining the highest traditions of his office. On behalf of all here present, it therefore gives me great pleasure to propose a vote of thanks to Mr Pieter van Rensburg.

Professor Plewman: Thank you, Mr Plumbridge. Dit gee my nou plesier om vir dr. Andre Taute uit te nooi om die mosie van dank te sekondeer.

Dr Taute: Mnr. die Voorsitter, mnr. die Minister, dames en here. Synde dat ek nou in Afrikaans gevra is om die mosie van dank te sekondeer behoort ek seker in Afrikaans hierdie paar woorde nou aan u te rig. Ongelukkig sal dit nou teenstrydig wees wat ek nou gedink het ek sou sê vanmiddag, en u sal so pas besef waarom. For that reason I'm afraid I'll have to disappoint you Mr Chairman, and go back to English.

I have always found it interesting to note how many words associated with industrial, engineering, and business enterprises, and used to draw attention to salient features of these enterprises, begin with the letter *M*. Thus, for example, we have often heard of the three *M*'s of the manufacturing industry, namely Men, Money, and Materials. In the mining context, we may speak of Men, Money, and Minerals, and the list could very satisfactorily be expanded to include Materials, Metals, Metallurgy, Mining Methods, Mechanization, etc.

Mr van Rensburg, in his very able and interesting address, has dealt with one of these *M*'s, our Mineral heritage, in considerable detail. Mr Plumbridge, in proposing the vote of thanks, has drawn attention to another, the Manpower requirements, and the challenging careers available to young men in the Mining industry. Might I in the few minutes available to me for seconding this vote of thanks, just refer very briefly to yet another, the challenging technical problems (Mining Methods and Mechanization) with which we shall have to deal in the years ahead.

Ladies and gentlemen, most of our gold mines are going deeper, temperatures are rising, costs are soaring, skilled manpower is in short supply, wages have recently been increased dramatically.

We have always been looked upon and, indeed, have considered ourselves to be a labour-intensive industry. I predict that, mainly as a result of rising labour costs, we have come very close to the end of this era.

The emphasis will now, as never before, be placed on productivity per man. Quite apart from Motivation, which undoubtedly will play a major role, this change in emphasis will involve substantial expenditure on Mechanization. Machines and techniques that have been available and in use in other countries for many years, and that, because of our labour-intensive practices, have not

found favour here, will henceforth be viewed in a different light.

It is only when one is forced to adjust to changing circumstances that alternative answers are found to specific problems. I believe that our engineers of all the various disciplines represented in our industry will rise to the occasion and will meet the challenge that lies ahead. In addition to the large-scale introduction of Machines and techniques now available overseas, I can envisage the design and introduction of Mechanical aids unique to these fields. In short, our industry will become more capital-intensive and less labour-intensive.

Change, after all these years, will not be easy, but it will certainly come.

Ladies and gentlemen, I have much pleasure in seconding Mr Plumbridge's vote of thanks, and I wish Mr Van Rensburg a most successful year of office.

The President: Mr Plumbridge and Dr Taute, thank you very much indeed for what you have said in proposing and seconding this vote of thanks.

I tried to spell out our tremendous future with the minerals we have here, and Mr Plumbridge has pointed out the manpower that we need. Dr Taute has referred to the methods that we are going to have to use. Quite clearly we have a great future, and I am very thankful to both Mr Plumbridge and Dr Taute for emphasizing these additional points that make it so important that we push ahead with our research and all the other aspects required to build up our great mineral industry. Thank you both.

Dames en here ons is nou amper op die end en dit bly net oor vir my om baie dankie te sê vir al ons lede en besoekers wat vanaand hier 'n bietjie lank gesit en luister het na my.

Thank you very much indeed for your attendance, and I now declare the meeting closed.

The meeting closed at 6.15 p.m.