

# C O R E S E A R C H

FOR CIRCULATION AMONGST MEMBERS OF C.S.I.R.O. STAFF

NUMBER 00 DECEMBER 1958

## CHANGES AT FISHERMEN'S BEND

**CHEMICAL RESEARCH LABORATORIES** is the new style for the former Division of Industrial Chemistry following its change in status. Dr. I. W. Wark is the first Director of the Laboratories.

Two of the largest sections of the Laboratories are now new Divisions—the Divisions of Chemical Physics and of Physical Chemistry.

These two new Divisions together with the remaining four major Sections will comprise the Chemical Research Laboratories. These Sections and their Officers-in-Charge are as follows:

Minerals Utilization—

Mr. R. G. Thomas

Organic Chemistry—

Dr. H. H. Hatt

Cement and Ceramics—

Mr. A. J. Gaskin

Chemical Engineering—

Dr. H. R. C. Pratt

The Foundry Sands Section will continue to be affiliated with the group.

Dr. Wark has been Chief of the C.S.I.R.O. Division of Industrial Chemistry since its formation in 1940.

Under his guidance this group has grown until it now has a research staff of one hundred and a total staff of three hundred. It is one of the leading chemical research laboratories in the world.

More than a third of the research staff have been re-

cruited from overseas, and about half of the Australians have studied abroad for higher degrees.

An adventurous outlook on research within the Chemical Research Laboratories has produced outstanding contributions in all phases of chemical discovery, both in basic science and in the solution of practical problems.



Dr. I. W. WARK



Some of C.S.I.R.O.'s more spectacular applications of science have come from the Chemical Research Laboratories.

These include the process using cetyl alcohol for controlling evaporation from dams and reservoirs; the process for separating hafnium from zirconium which is of significance for atomic-powered submarines; and a process for recovering uranium from its ores.

### The Director

Dr. Wark's own personal research was concerned with the theory of the flotation process for separating minerals from ores which is of major importance to the mining industry.

His pioneering work as a physical chemist in this field gained for him a world-wide reputation and his book "Principles of Flotation" first published in 1938 became recognized as a classic on the subject.

He is a graduate of the University of Melbourne and continued his post-graduate studies at the Universities of London and California.

Dr. Wark is a Fellow of the Australian Academy of Science.

For many years he has taken a prominent part in the affairs of the Royal Australian Chemical Institute and has done much to gain a wider appreciation of the importance of chemistry and of science generally. He was President of the Institute in 1957-58.

### Section Heads

Dr. H. H. Hatt, Officer-in-Charge of the Organic Chemistry Section, was a University lecturer before joining the Division of Industrial Chemistry in 1940. He had been on the staffs of the Universities of Southampton, London, Birmingham, and Melbourne.

In his lecturing days he conducted advanced classes in physical chemistry as well as organic chemistry.

### Headquarters of C.S.I.R.O. Chemical Research Laboratories

Main building faces Lorimer Street, Fishermen's Bend, Vic., on 14 acres shared with the Aeronautical Research Laboratories of the Commonwealth Department of Supply.

The Minerals Utilization Section is led by Mr. R. G. Thomas, who is a geologist as well as a chemist.

He is an Adelaide graduate and was attached to the Division of Biochemistry and General Nutrition before transferring to Melbourne in 1940.

Dr. H. R. C. Pratt, who leads the Chemical Engineering Section, is a comparative newcomer to C.S.I.R.O.

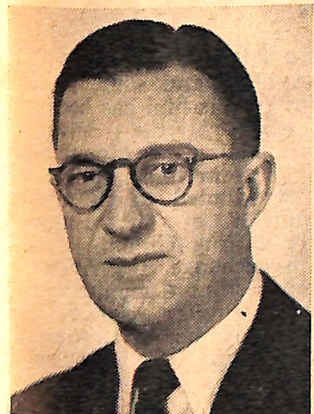
He was appointed to his present position in 1957.

He had been Deputy Chief Scientific Officer at the Atomic Energy Research Establishment at Harwell in England.

## TWO NEW CHIEFS

WITH the formation of new Divisions of Chemical Physics and of Physical Chemistry, Dr. A. I. G. Rees and Dr. K. L. Sutherland become Chiefs of Divisions. They have been leaders in their Sections for many years.

Quiet spoken, pipe smoker, Dr. Lloyd Rees, is the Chief of the new Division of Chemical Physics.



Dr. A. I. G. REES

He has been with the Division of Industrial Chemistry since 1944 as Leader of its Chemical Physics Section and more recently as an Assistant Chief.

Lloyd Rees is a Melbourne graduate, getting his B.Sc. in 1936 and M.Sc. in 1938.

After a short time at the University of Western Australia (where he collected a wife) he became Beit Fellow at Imperial College, London.

He got his Ph.D. in 1941 and joined the Phillips organization in England as Head of its Fundamental Research Group.

Melbourne University awarded him the degree of Doctor of Science in 1948.

His own research has been on the structure and properties of materials, and he has written many papers on spectroscopy, electron diffraction, electron microscopy, luminescence, and related subjects.

He has a nice sense of humour, a fund of good stories, and knows good wines when he finds them.

Dr. Rees is President of the Victorian Branch of the Royal Australian Chemical Institute.

Dr. Keith Sutherland, one of C.S.I.R.O.'s bright young men, is the Chief of the new Division of Physical Chemistry.

He was an Assistant Chief of the Division of Industrial Chemistry and Leader of its Physical Chemistry Section.

Keith Sutherland worked at the University of Melbourne on froth flotation of minerals and received his M.Sc. in 1941.

When he joined C.S.I.R.O., he continued to work on flotation and gained world-wide recognition for his research in this field.

A period in England in 1947 on a Davy-Faraday Fellowship at the Royal Institution secured him the degree of Ph.D. of the University of London. He also has a Melbourne D.Sc.

Keith Sutherland is an entertaining lecturer and is well-known for his effective broadcasts on technical subjects.

## Special Life Insurance Plan for Home Owners

THE Australian Mutual Provident Society of Melbourne has introduced a new life insurance scheme for C.S.I.R.O. members of staff.

Representatives of the Society have been negotiating for some time with representatives of the Officers' Association.

He recently collaborated with Dr. I. W. Wark in revising the second edition of Dr. Wark's book "Principles of Flotation".



Dr. K. L. SUTHERLAND

tion and the Assistants' Association and the Melbourne C.S.I.R.O. Section of the Administrative and Clerical Officers' Association.

Considerable interest has been displayed in the Scheme. It has been agreed that the group policy should be taken out in the name of the Association of Officers of C.S.I.R.O.

This does not mean that a member of the staff has to be a member of the Association of Officers of C.S.I.R.O. in order to participate. Any officer or employee may contribute.

The main object of the Scheme is to give cover at a low cost to those who are carrying heavy mortgages. In this way, their dependants are protected in the event of the death of the policy holder.

It is also an attractive proposition as a straight-out life cover to any member of the staff, including those who have no present or contemplated mortgage commitment.

A leaflet has been produced which will be distributed to all members of the staff. It contains full details of the Scheme, including procedure to follow in lodging a proposal.

Staff members may sign orders authorizing C.S.I.R.O. to deduct contributions from their salaries.

The Scheme fulfils a major need by providing its greatest death cover at the younger ages, offering maximum protection to the younger married men with dependants. The death cover reduces on each birthday and ceases at the age of 65.

A young man aged 29, for example, might take out 5 units at 1/6 each for which the premium would be 7/6 a fortnight. If he were to die at 30 his dependants would receive £3,350. If he died at 40 his dependants would receive £2,775, and at 50 only £1950.

The only evidence of health normally required from the majority of applicants will be a simple statement which is embodied in the proposal form. The Society expects that each member will be paid a cash bonus every 5 years.

On resigning from C.S.I.R.O. it will be possible to continue the insurance by payment of premiums yearly, direct to the A.M.P. Society.



# EXECUTIVE MEETS WOOL PRODUCERS

MEETINGS between the Executive and representatives of the Australian pastoral industry were revived last month. A conference was held at Head Office on 11th November to inform graziers' representatives of the recent wool research results and to discuss urgent problems of the industry.

The Conference was attended by representatives of the Graziers' Federal Council of Australia, the Australian Wool and Meat Producers' Federation, The Australian Primary Producers' Union, the Australian Wool Bureau, the Wool Research Committee established under the Wool Use Promotion Act, and the Associated Woollen and Worsted Textile Manufacturers of Australia.

These meetings are important in keeping the enthusiastic interest in research of influential members of the pastoral industry.

They are of special significance now since C.S.I.R.O. will need more funds from industry for its wool research programme in 1960 when the current five year programme ends.

## Management Improves Clip

Significant increases in the wool clip without increasing the cost of production can follow the application of recent research in sheep biology, Dr. G. R. Moule, of the Sheep Biology Laboratory, Prospect, told the Conference.

A study of the condition of the pregnant ewe has thrown much light on pregnancy toxæmia, on lamb losses, and wool production, Dr. Moule added.

Research has shown that the cuts per head for the whole of the sheep's life will be influenced by the way it was fed during six to eight critical months—including the two months before it is born, he said.

Poor feeding of the ewe and of the young lamb may reduce the annual cut by 20 per cent. of the sheep's inherent capacity throughout its life time.

## Lambing Losses

Year in year out it is likely that 20 per cent. of all Merino lambs die before reaching marking age. That means 7 million lambs lost each year.

Many of these losses can be avoided by more careful atten-

tion to the husbandry of the pregnant ewe.

The most important period is the last seven weeks of pregnancy.

A fall off in condition for two to three weeks during this period can considerably increase lambing losses.

The ewe's condition should rise from good store to forward store condition as lambing approaches, and its condition should rise all the time—it must never be allowed to fall in condition.

## Pregnancy Toxaemia

The cause of this condition has defied investigators for the past 84 years.

It is now clear that when undernourished ewes are unable to meet their own bodily requirements as well as those of their unborn lambs they begin to mobilize reserves from their body stores.

While in this state the animal is extremely sensitive to stress such as cold weather, a long train journey, or just "bad yard work".

When these stresses are superimposed pregnancy toxæmia may result.

## Wool Bureau to promote New Processes

Mr. W. A. GUNN, Chairman of the Australian Wool Bureau, told the wool conference that the Bureau is appointing three men to act as technical liaison officers.

They will assist industry in applying new wool textile processes.

This will speed up industrial acceptance of C.S.I.R.O. research results and will relieve the research staff of much routine trouble-shooting.

The Bureau has already urged the International Wool Secretariat to appoint more technical staff to assist in bringing new processes before industry in overseas countries.

Proper feeding during pregnancy and particularly during stress conditions can help prevent the condition.

## Increasing Fleece Weights

The rate of annual increase in the average fleece weight of Australian Merino sheep has slowed down in the past twenty years, Miss Helen Newton Turner of the McMaster Laboratory, Sydney, told the Conference. But the rate can be stepped up again, she said.

Miss Turner said that actual measurement of fleece characteristics, particularly fleece weight, when combined with the present practice of classing by eye judgment can at least double the rate of breeding improvement.

A great number of measurements are not required. Only greasy fleece weight need be taken for flock ewes.

Miss Turner emphasized that increased wool production per acre has resulted from these improvements.

Miss Turner stressed that improved pastures mean that attention must be paid to productivity per acre, and meat production is a source of such increase.

If breeds other than the Merino are used, wool quality is immediately lost.

Experiments are in progress to examine the possibility of improving meat production in the Merino. This, allied to higher lambing percentages, would lead to greater all-round production per acre.

## Mycotic Dermatitis

Dr. Stewart told the Conference that C.S.I.R.O. has now found that the causal organism of mycotic dermatitis is probably passed directly from animal to animal.

Originally it was thought to come from the soil.

It is now clear that the infection persists in small residual lesions on the face and ears of other sheep.

The infection is probably transmitted by the ewe when cleaning her lamb at birth.

## Industry uses Wool Textile Results

RESULTS from C.S.I.R.O.'s wool textile research programme are being put into industrial practice, Dr. F. G. Lennox, Senior Officer-in-Charge, Wool Textile Research Laboratories, told the wool conference.

● SI-RO-MARK scourable branding fluid is now used on 90 per cent of the sheep in Australia. It has virtually eliminated the brand problem for the textile manufacturer.

● Fellmongers are gradually adopting the C.S.I.R.O. aeration digestion method of recovering wool from sheep skin pieces and damaged skins.

● Wool losses during carbonization have been drastically reduced by adding a non-ionic detergent to the sulphuric acid used to char the burrs.

● Investigations on the sampling of wool by the core-boring technique have helped the newly-formed Australian Wool Testing Authority to commence operations.

● An improvement in the melange printing of wool tops has found ready acceptance.

● An effective method for solvent degreasing of wool is already in use industrially and a plant is being designed for demonstrating the process in the United Kingdom and Europe.

● The SI-RO-MOTH'D process using dieldrin is finding wide application as a cheap and effective moth-proofing process.

● Clothing manufacturers throughout the world are using the SI-RO-SET process for putting permanent creases and pleats in woollen trousers and skirts.

● Methods of conferring "wash and wear" properties on all-wool garments are being studied.

## Stabilizing Production

Pasture production in southern Australia is relatively low in winter and summer. Mr. Milton Moore, Assistant Chief of the Division of Plant Industry, told the Conference of research aimed at overcoming these seasonal variations in productivity.

Seasonal variations in growth rates make it difficult to stock to the maximum potential and to use to the full the pasture grown.

Research in progress includes an assessment of the effects of conservation in overcoming troughs in productivity and sowing different species or strains for production at different seasons.

## Resistant Insects

More and more insects have developed resistance to insecticides particularly over the past 15 years, Dr. A. J. Nicholson, Chief of C.S.I.R.O.'s Division of Entomology, told the Conference.

The greater efficiency of the new and more powerful insecticides has speeded up the natural selection process. The resistant insects have survived, the others have perished.

Dr. Nicholson emphasized the importance of getting control of insect pests without the use of insecticides wherever possible.

He pointed out that the use of the Mules operation and crutching gives protection against crutch strike and urged that it be widely adopted.

This treatment does not alleviate body strike. At present the use of insecticides is the only practical method of control.

## FOUR NEW FILMS

THE Executive has given approval for the release of four 16 mm. sound films

### Grapevine Pruning

A colour film which runs for 16 minutes, this film was produced in collaboration with the Commonwealth Research Station, Merbein, and the Departments of Agriculture in Victoria and New South Wales.

It crystallizes 30 years of research and field observations on the pruning of grapevines along the River Murray.

### Mitosis

This is a colour film with a screening time of 10 minutes.

It is a wholly animated film showing the essential changes, particularly the splitting of chromosomes, which take place within a cell when it divides to form two identical daughter cells.

### War Against the Rabbit

This film was first released in 1954, but has been re-edited to cover the use of 1080 as a more effective rabbit poison than strychnine.

The new version runs for 12 minutes, and is in colour.

It was made at the direct request of the Victorian Department of Lands and Survey which defrayed the cost of recording and of the film materials involved.

### The Mallee Fowl

A black and white negative copy of this film has been purchased by the Australian Broadcasting Commission. Prints from this negative will be distributed to all member countries of the European Broadcasting Union.

In exchange, the Australian Broadcasting Commission will receive similar scientific films from member countries for transmission on television in Australia.

## Resignation of Dr. Sosnowsky

Dr. HILDEGARD SOSNOWSKY has resigned from the Division of Tribophysics.

She and her husband came to Australia as displaced persons after the end of World War II.

She started a programme of research work into catalysis at the surface of metal crystals.

She will leave Australia shortly to visit Europe, before joining her husband who is an organic chemist now working in Chicago.

## English Biochemist leads Wheat Research Unit

THE leader of C.S.I.R.O.'s new Wheat Research Unit, Mr. M. V. Tracey, arrived from England this month.

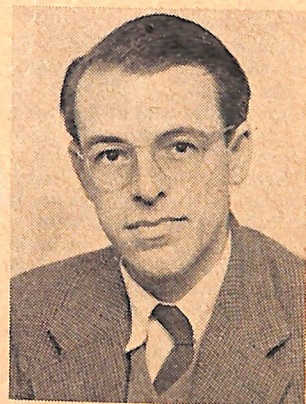
The Wheat Research Unit, established for investigation of wheat quality will be supported by funds from the Wheat Industry Research Council.

The Council has provided C.S.I.R.O. with a grant of £12,000 for 1958-1959. It is hoped that in future years the amount will be increased to enable the Unit to be built up. It will in due course include a leader, an S.R.O. (Biochemist) and R.O. (Biochemist), and five technical assistants.

The aim of the Unit is to elucidate fundamental problems associated with Australian wheat quality, and to relate biochemical differences to the physical properties of doughs from various classes of wheat.

The Unit will be housed in the new building being erected for the Bread Research Institute at North Ryde.

The Bread Research Institute has first-rate facilities for research and testing of all cereal products. It is associated with



Mr. M. V. TRACEY

the bread manufacturing industry throughout Australia, and with many milling firms.

It also has links with research and testing of wheats in several States.

For administrative purposes, the Director of the Institute, Mr. Eric Bond, will be Officer-in-Charge of the new Unit, whilst Mr. Tracey will be re-

sponsible for the scientific leadership of its work.

Mr. Tracey comes to us from the Rothamsted Experiment Station of the Agricultural Research Council in Hertfordshire, England.

He graduated from Cambridge during the war, and has been at Rothamsted since 1945.

He is married, with two sons. The family are not strangers to Australia. At the end of 1955 Mr. Tracey was awarded a Royal Society and Nuffield Foundation Commonwealth Bursary, and spent a year in Australia working at the Wool Textile Research Laboratory in Melbourne.

Mr. Tracey was also invited to America in 1957 to open a session on "Cellulases" at a Symposium in Marine Biology at the University of Washington.

He is the author of three books, one of which, "Principles of Biochemistry", is considered to be one of the most original books on biochemistry to be published in recent years.





## ADVISORY COUNCIL MEETS

**THE** eighteenth session of the Advisory Council held on the 12th and 13th November. The meeting opened at the Wool Textile Research Laboratories, Geelong, and continued at Head Office.

Dr. White reported that the deputation from the Council to the Prime Minister to seek better treatment for C.S.I.R.O. at Estimates time had been most successful.

The deputation consisted of Mr. H. B. Somerset and Mr. E. M. Schroder and it was accompanied by Dr. White.

The Prime Minister gave the deputation a sympathetic hearing and Cabinet had specifically considered a paper on C.S.I.R.O. Estimates submitted by Mr. Casey.

As a result non-salary funds from Treasury were increased from £1,484,000 in 1957/58 to £1,841,000 in 1958/59.

This made it possible to make good to some extent the deficiencies in providing equipment which had occurred in recent years.

### Works Estimates

Dr. White pointed out that C.S.I.R.O. was still in great difficulties over buildings.

These arose from three main causes—

- the need to provide temporary accommodation rapidly after the war.

- pressure from the Universities, resulting from their own growth, to vacate accommodation in University premises.

- the general expansion of C.S.I.R.O. in recent years.

The problem could be brought under control if C.S.I.R.O. had £1,000,000 per annum to spend on buildings for several years instead of its present allocation of £350,000 per annum.

Strong representations are being made to the Government in the hope of increasing the rate at which buildings can be made available.

### Beef Research Fund

Council discussed proposals made to the Commonwealth Government by the Graziers' Federal Council for the establishment of a research fund to finance beef cattle research.

The proposals involve a levy of 2/- per head on cattle slaughtered, with an equal contribution by the Commonwealth.

Administration of the fund will be in the hands of a committee consisting of representatives of the Graziers' Federal Council, the Australian Meat Board, C.S.I.R.O., the Universities, the Australian Agricultural Council, and the Department of Primary Industry.

Before Government approval is sought to the proposals the agreement of other producers' organizations interested in the beef industry has to be obtained.

A Committee appointed by the Australian Agricultural Council is now to meet the producer bodies to attempt to resolve differences between them. C.S.I.R.O. is represented on this Committee.

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### Geelong Visit

An inspection of the Geelong Wool Textile Laboratories formed part of the meeting.

Dr. Lipson spoke to the Council about the work of his group.

He compared the properties of wool with those of the various synthetic fibres.

Considerable progress has been made in overcoming wool's disadvantages and the only major outstanding problem seems to be wrinkle resistance at high humidities.

Synthetics still lack wool's handle, high resistance to soiling, and ease of dyeing. They also give more trouble due to pilling.

dividually with Chiefs and Officers-in-Charge.

Advertisements have been issued inviting applications for appointment to positions of Divisional Administrative Officer where it has already been agreed with Chiefs and Officers-in-Charge that such positions be established in particular Divisions or Sections.

These advertisements are addressed to all members of the staff of the Organization.

The Executive has also approved the creation of a classification of Trainee Divisional Administrative Officer, with salary grading of £385-£1083 (n).

This classification has been introduced to enable an extensive training scheme to be commenced, designed to meet future needs for Divisional Administrative Officers.

Applications for appointment of a small number of Trainee Divisional Administrative Officers will be called for in the near future and the conditions attaching to such appointments will be set out at that time.

The Executive has been concerned in recent years with finding ways of using administrative talent in the Organization to the best advantage.

Introduction of the new classifications follows a survey made by Mr. D. T. C. Gillespie and Mr. L. Peres of the Staff Section during the past year.

They visited Divisions and Sections to find out what sort of administrative work is being done by Technical Secretaries and by Clerks.

The salary classifications in the new designations of Divisional Administrative Officers are:—

Grade I	£1083-£1353 (n)
Grade II	£1353-£1623 (n)
Grade III	£1668-£1833 (n)
Grade IV	£1888-£2053 (n)

Entry to the Divisional Administrative Officer classification depends on possession of a University degree in Arts or Economics, or equivalent.

The effect of the introduction of the new classifications on existing Divisional and Sectional administrative positions has already been discussed in-

## RAINMAKERS GET NEW AIRCRAFT

APPROVAL has been given for the Division of Radio-physics to charter a Beechworth Twin-Bonanza aircraft from East-West Airlines.

The aircraft will be used initially on cloud seeding operations in the New England district of N.S.W.

It will free one of the C.S.I.R.O. Cessna 310B aircraft for work in other areas.

It is hoped that the new aircraft can be available early in 1959.

The aircraft will probably be stationed at Tamworth, the headquarters of East-West Airlines.

The New England experiment completed its first year in November.

It is a round-the-year experiment except for a close down in the wheat harvesting period of November and December.

Opportunities for cloud seeding occurred frequently during the year and the area appears to be suitable for this type of experiment.

Large-scale rainmaking experiments are also in hand in the Snowy Mountains Region, in an area north of Adelaide, and in the Darling Downs area of Queensland.

The Beechworth Twin-Bonanza is powered by two Lycoming six-cylinder engines rated at 285 h.p. It seats six passengers and will carry a useful load of 1,360 lbs., covering six people and equipment.

Its cruising range is over 1,000 miles at 210 m.p.h. and its service ceiling 20,000 feet.

## BOWEN GOES TO U.K.

In the hope of speeding up completion of plans and specifications for the Giant Radio Telescope, Dr. E. G. Bowen, Chief of the Division of Radio-physics, has just left on a short visit to the United Kingdom.

The Executive has been concerned over the slow progress being made by Freeman, Fox and Partners, the London firm of consulting engineers who are preparing the design for the telescope.

The telescope, with its 210 foot diameter aerial system, will be installed at Parkes, New South Wales.

It will be the most powerful telescope of its kind in the world.

## More A.V.A. Fellows

**TWO Assistant Chiefs of the Division of Animal Health and Production have been elected as Fellows of the Australian Veterinary Association.**

Members who render outstanding service to the Association are eligible for election as Fellows.

Dr. T. S. Gregory, Officer in Charge of the Animal Health Laboratory, Parkville, has been a member of the Council of the A.V.A. for many years. He was President in 1950.

His experience has been of great value to the Association especially in regard to the control of brucellosis and tuberculosis.

Dr. D. F. Stewart, Officer in Charge of the McMaster Animal Health Laboratory, Sydney, has also been a member of the Council of the A.V.A. for a number of years.

He was President in 1955-56 and has only recently relinquished the post of Honorary Secretary.

## CHAIRMAN RECOVERING

**SIR IAN Clunies Ross is expected to take up duty again in the New Year.**

He suffered a coronary occlusion two months ago and has been confined to bed for some time.

An early attempt to start work ended with a recurrence of his trouble.

Sir Ian is now gaining strength and is up and about again.

On his doctor's advice he has cancelled many appearances at public functions and has strongly curtailed projected speaking engagements.

He wishes to thank members of the staff for their many kind inquiries about his health.

## Dr. Marston seriously ill

CABLED advice from New York states that Dr. Hedley Marston, Chief of the Division of Biochemistry and General Nutrition, suffered a heart attack at the end of October.

Dr. Marston was on his way home to Australia following the meeting of the International Biochemical Congress in Vienna in September.

He was travelling with Mr. D. W. Dewey, a member of his staff.

After admission to The Valley Hospital at Ridgewood, N.J., he made a spectacular recovery.

## JAPANESE TO USE SI-RO-SET PROCESS

**THE SI-RO-SET process for permanently creasing or pleating woollen fabrics has been patented in a large number of countries, including Japan.**

Two months ago information was received from the Tokyo office of the International Wool Secretariat that certain Japanese firms were interested in taking out licences to use the process.

A leading Japanese firm called Kaken Kogyo K.K. has already been authorized to manufacture concentrated solu-

tion for use in the process, and to sell it under the name of "SI-RO-SET". The solution for use in the process has been tested until now by Professor Horio of Kyoto University.

The Australian Wool Bureau, which is interested in promoting the use of Australian Wool everywhere, has agreed to pay for a visit to Japan by a C.S.I.R.O. officer, so that the process may be properly demonstrated to clothing manufacturers.

Mr. M. A. Higgins of the Wool Textile Research Laboratories at Geelong will spend

two weeks in Japan between now and Christmas time.

He will conduct a number of demonstrations in various cities, including Tokyo, Osaka and Nagoya. Representatives of the Japanese press will be invited to the trade demonstrations.

Inquiries from people interested in using the SI-RO-SET process continue to flow into Head Office from all parts of the world. In the past month inquiries have been received from the United States, Japan, South Africa, New Zealand, Brazil, Argentina and Uruguay.



# NEW AUSTRALIANS IN C.S.I.R.O.

MANY scientists from Europe have come to Australia to work with C.S.I.R.O. in the post-war years, and a large number of immigrants to Australia have joined C.S.I.R.O. in non-scientific capacities.

A recent survey by the Staff Section shows that we have among us 150 people of non-British nationality. They come from 28 different countries, and include laboratory assistants, labourers, station hands, a cook, tradesmen of all kinds, librarians, translators, and, of course, scientists.

Amongst the countries listed as birth places by our new Australian members are Austria, Bulgaria, China, Croatia, Czechoslovakia, Egypt, Estonia, France, Germany, Greece, Holland, Hungary, India, Indonesia, Italy, Latvia, Lithuania, Manchuria, Norway, Poland, Rumania, Russia, Spain, Sweden, Switzerland, Ukraine, the U.S.A., and Yugoslavia.

Many other members of the staff who have come to Australia since the War have taken

Australian citizenship, and are not included in this number.

Among our most interesting new Australians is Dr. S. J. Paramonov. Before the War he was a Professor of Entomology in the University of Kiev in the Ukraine. He had a world-wide reputation for his knowledge of flies.

During the War he was captured by the Germans, and after years in concentration camps was liberated by the allied armies just before the end of the War.

He was destitute and penniless in Paris in 1946 when the Organization recruited him to the staff. He has done valuable work during his 14 years in Australia, and is due to retire at the end of this year.

Dr. Peter Geier is a Swiss who, before coming to Australia in 1956, was Assistant Director of the Federal Agricultural Research Station in Lausanne (Switzerland).

He has now settled in the Division of Entomology in Canberra. His wife works as a technical assistant in the Division of Land Research and Regional Survey.

Mr. Pan Yu Sheng is a young Chinese who was born in Nanking. As a schoolboy he was evacuated to Kunming beyond the reach of the Japanese invading forces.

He returned to Nanking after the War and attended the University there. He then came to Australia and took out a

Bachelor's degree in Agricultural Science at the University of Sydney.

He has since completed his Master's degree and is now working as an Experimental Officer in the Division of Animal Health.

An interesting appointment was made last month to the Division of Land Research and Regional Survey. Mr. F. Hagenzieker, a Dutchman, has been appointed to lead the Division's work in the field of rice research.

Mr. Hagenzieker is 37 years of age and is a graduate of Wageningen with a degree equivalent to M.Sc. Agric. which he obtained in 1947.

From 1947-1953 he was soil chemist with the Scientific Department of Overseas Food Corporation, Tanganyika. Since 1953 he has been a Research Fellow at the University College of Ghana.

At Ghana he carried out soils surveys and research on the fertility status of the Accra Plains soils and was involved in lecturing duties on statistical methods.

Many other members of our staff have led extremely interesting and, in some cases, adventurous lives before coming to Australia.

Occasionally they return to their home lands, but it should be a source of great satisfaction that most of them settle down to happy and productive careers in Australia.

## Coal Committee Reports

THE Advisory Council at its November session received the report of a Committee it had set up to examine C.S.I.R.O.'s coal research programme.

The Committee consisted of Mr. W. W. Pettingell (Chairman), Professor J. W. Roderick and Dr. J. Vernon (members of Advisory Council), Dr. H. K. Worner, Mr. S. McKenney and Mr. F. Sykes (co-opted members), Dr. F. W. G. White, and Mr. G. B. Gresford (Secretary).

The Committee considers the present programme of research of the Coal Research Section is adequate to meet the needs of Australia's coal production and utilization industries.

It feels that the development of this programme should be gradual and spread over the years.

The Coal Research Section is handicapped at present by the absence of some of the more modern scientific tools and specialized equipment, e.g. mass spectrometer and electron magnetic resonance equipment.

The Committee considers some at least of this additional equipment should be provided. It suggests that some of this specialized equipment might be provided by industry.

The Committee was impressed by the high standard and value of the work being carried out by the Coal Research Section but it believes that this is insufficiently appreciated by the coal producing and utilization industries because of inadequate contact between them and the Section.

The Committee suggested a review of the way in which the Coal Research Section's research results are disseminated.

It felt that they might not reach all the people they should.

Lists of the Section's reports might appear regularly in appropriate industrial journals.

The Committee considers the relationship between the programmes of the Coal Research Section and the Australian Coal Association (Research) Ltd. to be satisfactory. They are, in fact, complementary, the Coal Research Section's being concerned with research and A.C.A.R. essentially with quality control and improvement.

The Committee considers that it is logical for the Division of Industrial Chemistry to interest itself in some of the problems of brown coal utilization in collaboration with the Gas and Fuel Corporation of Victoria.

However, it feels that C.S.I.R.O. should not undertake any developmental work on black coal utilization unless by similar arrangement it receives a clear and specific mandate to do so.

## Back to School

TWO "schools" to provide training in temperature measurement and control have just been completed at the Division of Physics.

The first course of ten days included lectures, demonstrations, and practical work on the accurate measurement of temperature and humidity, the use of industrial instruments, and the principles of automatic control.

This course extended over five weeks.

To enable people from places away from Sydney to receive training, a special short inten-

sive course was held from 24th to 29th November.

Trainees have to take an examination at the end of each course.

More than 70 people have passed through such courses, thus making industry more self-sufficient in temperature measurement and providing it with personnel better able to recognize problems that the Division can help to solve.

## RECENT APPOINTMENTS

Among the recruitments to C.S.I.R.O. this month are a physicist who left C.S.I.R.O. a few years ago to migrate to Canada, and a young Dutch Agricultural graduate.

Dr. G. K. D. White has been appointed to the Division of Physics to undertake research into the properties of materials at low temperatures. He is 33 years of age and took his B.Sc. and M.Sc. degrees at the University of Sydney.

He went to Oxford on an overseas studentship in 1947, and gained his doctorate in 1950.

He worked with the Division of Physics from 1950 to 1953. Since 1953 he has been working with the National Research Council in Canada.

Mr. t'Mannezje is a graduate of the Agricultural University of Wageningen in Holland.

He was married in Holland just before his voyage to Australia.

He will join the Division of Plant Industry, and work with a team studying the spear grass country in Queensland.

Dr. A. D. Brown is another former C.S.I.R.O. scientist to re-join the Organization.

## Higher Fares Overseas

SHIPPING Companies have announced that a revised table of fares will apply to passages between Australia and the United Kingdom from 1st January.

Standard maximum fares for officers travelling overseas are based on the current cost of first-class sea travel, and hence the table of standard fares shown in paragraph 7 of the Supplement to T. & C. 66 has been amended.

Details of the new standard fares are given in Head Office Circular Memorandum.

From 1949 to 1956 he worked as a bacteriologist with the Division of Food Preservation and Transport, most of the time in Brisbane.

He resigned from C.S.I.R.O. in 1956 to take up an I.C.I. Research Fellowship at the University of Manchester. He has now completed a Ph.D. degree at that University.

He has taken up an appointment as a Senior Research Officer with the Division of Fisheries and Oceanography at Cronulla.

Dr. T. Mole has joined the Organic Chemistry Section of the Chemical Research Laboratories at Fishermen's Bend.

He is an Englishman who graduated B.Sc. and Ph.D. at the University of London.

After taking his doctorate he went to America and became an instructor at Yale University.

Dr. R. J. Simpson comes to us from Uganda.

He is a graduate of the Universities of Wales and Aberdeen.

After taking his Ph.D. degree in 1955 he joined the Uganda Department of Agriculture as a soil fertility chemist.

He will work as an agronomist in the Division of Plant Industry studying variations in the nitrogen cycle under grazing conditions.

## THIS MONTH

The Wool Research Committee meets in Sydney on 2nd to 4th December.

The Executive meets in Melbourne on 18th December.

## Advisory Council in Adelaide

THE next meeting of the Advisory Council is to be held in May in Adelaide.

A precise date for the meeting has not been fixed.

It is expected that the Council will examine developments in the South-east of South Australia before the meeting.

## Soils Headquarters to be Opened

THE new headquarters building for the Division of Soils adjacent to the Waite Research Institute, Adelaide, will be opened in March next.

Details of the opening are not yet available.

## New Buildings Completed

Three new buildings were completed for C.S.I.R.O. during the past month.

The most important is a large new brick building at the Geelong Wool Textile Research Laboratories.

It will be used to house plant for the wet processing of wool

including the scouring of raw wool.

The cost of the project was more than £20,000.

A new process bay has been completed at Fishermen's Bend to house the expanding activi-

ties of the Chemical Engineering Section led by Dr. H. R. C. Pratt.

A new residence has also been completed for the Officer-in-Charge of the Regional Pastoral Laboratory at Deniliquin.

## Funds for Dairy Research

Dr. J. R. VICKERY is to represent C.S.I.R.O. on the Committee administering dairy research funds.

The Committee will consist of representatives of the Australian Dairy Produce Board, C.S.I.R.O., the Australian Agricultural Council, and the Department of Primary Industry.

It will disburse funds in the Dairy Produce Trust Account established under recent legislation.



Dr. J. R. VICKERY

The funds come from a levy on butter and cheese and an equal contribution from the Commonwealth.

It is expected the funds will amount to about £250,000 p.a.

Dr. Vickery will confer with the various groups in C.S.I.R.O. interested in dairy research in preparing C.S.I.R.O.'s proposals.

## Further Grant for Bread Research

The Executive has decided to continue to make grants to the Bread Research Institute of Australia for a five year period starting on 1st July.

The grant will be 10/- for each £1 of the first £14,000 of grant-earning income collected by the Institute and 15/- for each £1 of grant-earning income in excess of £14,000 to a maximum of £25,000.

The Institute has done excellent work in its field and is having an important influence on the bread and flour-milling industries.

It is soon to start erecting new laboratories on a site made available by C.S.I.R.O. at North Ryde, adjacent to the site of the new laboratories for the Division of Food Preservation and Transport.