

CORESEARCH

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

NUMBER 1 APRIL 1959

OPENING OF SOILS LABORATORY

SECTION ONE of the new headquarters buildings for the Division of Soils at Glen Osmond, Adelaide, was opened on March 13th by the Speaker of the House of Representatives Mr. J. McLeay.

The new laboratory is a single storey, cream brick structure housing the Division's central administrative staff, and the Sections of soil survey and pedology and of soil chemistry.

It has been erected on land adjacent to the Waite Institute made available on long-term lease at a nominal rental by the University of Adelaide.

The sections of soil physics and soil microbiology will remain in the Waite Institute for the time being and the clay mineralogy section in the Mawson Building of the University of Adelaide.

Plans are in hand for a second building to house these remaining groups on the one site. The final scheme will include buildings for workshops and stores, and glasshouses.

At a cost of £80,000 the new building provides 12,000 sq. ft. floor space. It has a bold entrance treatment in random uncoursed sandstone.

It is set in a picturesque foothills site adjacent to the recently formed Wine Research Institute.

the Murray River Soils Investigations in 1927 and was renamed as the Division of Soils in 1929.

Its operations started in the Murray Valley on irrigation areas and were extended in 1929 to Tasmania. By 1944 soils work was in progress in every State.

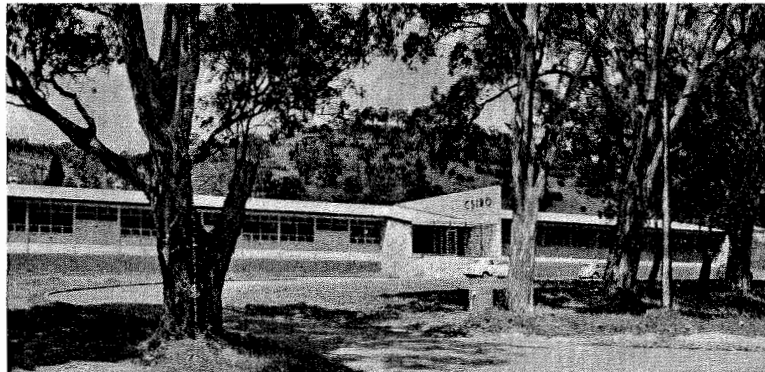
Total staff now numbers more than 100, including 50 research workers.

Principal achievement of the Division is the mapping of Australian soils as a national resource, Mr. McLeay said.

A total of 570,000 sq. miles of soils has been mapped. Of this 30,000 sq. miles has been surveyed in moderate detail and the rest in reconnaissance.

From its earliest days the Division has been consultant and active investigator for Commonwealth and State Governments on land settlement and the problems arising from it.

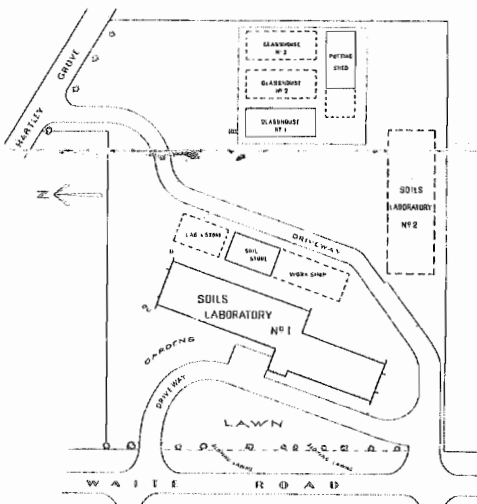
The Division has also done much work on soil fertility principally from the chemical angle. Mr. McLeay said.



From left: Mr. J. K. Taylor, Mr. J. McLeay and Sir Ian Clunies Ross, Mr. McLeay has just unlocked the door to the new building.

Site plan for Soils headquarters showing new buildings and proposals for extensions to house remaining staff. Land adjacent to the Waite Institute.

New laboratory for the Division of Soils at Glen Osmond. The building is the first stage of construction to house the headquarters group.



Lines of Communication

OUR 4000 staff members are scattered over Australia, from Sydney to Perth, from Hobart to Thursday Island.

Lines of communication between them are tenuous.

Study of our press releases and the reports which circulate in C.S.I.R.O. can provide some information on what is going on, but many C.S.I.R.O. happenings never become known to the staff.

The aim of CORESEARCH is to let all members of staff know what is going on in C.S.I.R.O.

The news in this first issue has been gleaned from the 20,000 letters which have passed in and out of Head Office during the past month.

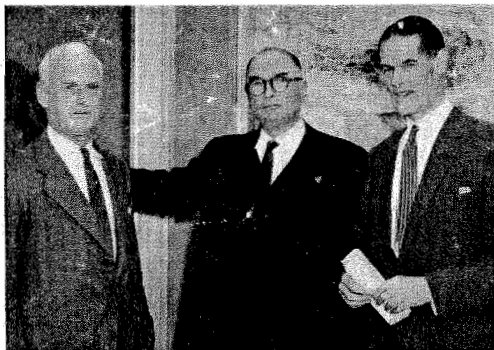
We want CORESEARCH to cover all matters which will interest its readers.

We would like to receive news items and will welcome notes from any member of staff.

Address news tips to the "News Editor, Coresearch" at Head Office.

We will print the things we judge to have news value.

CORESEARCH will appear each month and will be distributed to all members of the staff.



More than 250 people representing a wide range of interests attended the opening ceremony and inspected the work of the Division.

Opening

In opening the building, Mr. McLeay said that the Soils Division was one of the first C.S.I.R. groups. It started as

has worked on soil tillage and on the water regime in soils in the field.

Major regional units of the Division have been established in Brisbane, Canberra, Hobart, and Perth. Almost half the research staff is at these and minor centres away from Adelaide.

Link with Waite

Sir Ian Clunies Ross thanked the University of Adelaide for its generosity in making available the site for the new laboratory.

The Division had been linked with the Waite Institute since its inception, he added.

All three Directors of the Waite Institute—the late Dr. A. E. V. Richardson, Professor J. M. Prescott, and Dr. J. Melville—had the closest association with C.S.I.R.O. and the Division of Soils.

He was sure that the scientific collaboration which had existed between the two groups for the past 30 years would continue in the future.

Mr. J. K. Taylor, Chief of the Division of Soils, said the new building would provide immediate relief to some groups in the Division.

However, he hoped that the remaining sections could expect to be in building number two within two or three years.

Executive meets in Melbourne on 2nd and 23rd April.

Board of Standards meets in Melbourne on 13th April.

Wheat Research Council meets in Canberra on 28th and 29th April.

Minister's Japanese Visit

Scientific collaboration will be a major theme in Mr. Casey's discussions in Japan.

THE Minister-in-Charge of C.S.I.R.O., Mr. R. G. Casey, left on March 21st on a short visit to Japan.

He is accompanied by Mr. G. B. Gresford, Research Secretary (Physical Sciences), who is acting as his scientific adviser.

Whilst in Japan the Minister will visit the Japanese Science Council, which corresponds with the Australian Academy of Sciences, and also the Science and Technics Agency,

which corresponds roughly to C.S.I.R.O.

Mr. Casey will discuss with Japanese scientists and the Japanese Government the possibility of increasing scientific co-operation between Japan and Australia. In particular the question of increasing the number of fellowships available for Japanese and Australian scientists to visit one another's countries will be considered.

There will be discussions on the International Geophysical Year and the work being done by Australia and Japan for COSPAR (Committee on Outer Space Research).

On his way home to Australia, Mr. Gresford will visit the Indonesian Science Council in Djakarta and the National Science Board of the Philippines in Manila.

Senator J. G. Gorton is acting as Minister-in-Charge of C.S.I.R.O. while Mr. Casey is in Japan.

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PULP AND PAPER CONFERENCE



THE thirteenth annual conference of the Australian Pulp and Paper Industry Technical Association was held at St. Kilda from the 20th February to the 4th March.

The Association links all groups in Australia interested in research on pulp and paper.

Thirty-five papers were presented covering forestry, pulping, paper making, paper testing, hydro-dynamics and mechanics, engineering, fibre and paper products, and instrumentation.

In opening the Conference,

Dr. F. W. G. White, Deputy Chairman of C.S.I.R.O., surveyed the rapid economic development of the paper industry in Australia and the part played by research in this process.

Whilst praising the high level of technical knowledge and precision shown by leaders of the industry, he pointed to the possible hazards inherent in a complacent attitude towards the need for more research.

Mr. L. R. Benjamin, a former officer of the Bureau of Science and Industry (early forerunner of C.S.I.R.O.) surveyed the events leading to the foundation of the Australian paper industry.

From left: Dr. W. E. Cohen, Dr. H. E. Dadsell, Mr. W. E. Hillis, and Dr. A. Wardrop, of the Division of Forest Products at A.P.P.I.T.A. Conference.

Officers of the Division of Forest Products present at the conference initiated discussion into a number of topics. These included the effect of wood extractives and wood storage on pulping, tree genetics, chemical modification of cellulose, sorption of water vapour, dimensional stabilization, and paper rheology.

A number of social events and excursions were held in conjunction with the conference.

Agricultural Institute Assesses Career Opportunities

"PROBLEMS of grave concern to all Australians" are exposed by a recent survey of career opportunities for agricultural scientists, according to Mr. R. M. Moore, President of the Australian Institute of Agricultural Science.

Results of the survey are set out in a report issued by the Institute last month.

Mr. Moore is Assistant Chief of the Division of Plant Industry.

The report declares that Australia's output of agricultural and veterinary science graduates is "deplorably low in relation to true needs".

It warns that the Institute's efforts to attract more undergraduates to University agricultural science courses are being "dangerously undermined by unsatisfactory opportunities and conditions prevailing throughout a large sector of the profession".

The report says that it is imperative that the various authorities who employ agricultural scientists should maintain a steadily rising intake of graduates in the next few years.

It is also imperative that they should provide "salaries and working conditions attractive to high calibre graduates".

Failing this, the Institute considers University enrolments could be so discouraged that Australia would begin to fall behind in scientific agriculture.

There are about 1230 agricultural scientists in Australia

and nearly half of them are employed by State Public Services.

The remainder work in C.S.I.R.O., industry, or the Universities, and a few are engaged in farming.

Almost half of them are engaged in some form of research.

The Institute marshals evidence to show that salaries and facilities for work enjoyed by agricultural scientists in State Government departments compare "most unfavourably" with those of other agricultural scientists.

Sir Ian Clunies Ross in a public comment on the report urged further expansion of State agricultural extension services.

He hoped Federal and State Governments would earnestly consider the report findings.

NEW WOOL DYEING PROCESS

THE Wool Textile Laboratories have discovered a new method of dyeing wool. Dr. B. S. Harrap of the Division of Protein Chemistry invented the process.

Dr. Harrap described the process to members of the Society of Dyers and Colourists of Australia at a meeting of the Society's Victorian Section in Melbourne on 4th March.

The method depends on treating wool top or loose wool with a cold solution of dye-stuff in formic acid for a minute or two, Dr. Harrap said. Dyeing time is reduced still further by first wetting the wool with the solvent, he added.

In normal dyeing of wool, the wool goods must be boiled

in an acid solution, usually for more than an hour.

Dr. Harrap said said that in the new process no heating is required in the dyeing. However, the solvent must be recovered for re-use, he said, and this aspect is now being examined.

A good deal of work still remains before it can be applied commercially.

One of the attractive features of the new process is its suitability for development as a continuous process.

RECENT APPOINTMENTS

AMONG recruits to C.S.I.R.O. this month are three men who will join the Chemical Engineering Section of the Chemical Research Laboratories at Fishermen's Bend, a former Czech engineer born in China, a chemist from Lithuania, and a former Kyneton girl who has spent four years in England.

Mr. D. F. Kelsall, M.A. (Canfab.), has been appointed to the position of leader of the unit operations group of the Chemical Engineering Section.

He has already commenced duty in the United Kingdom, and will arrive in Australia next week.

During the War he served as a pilot in the Coastal Command of the R.A.F.

Before the War he worked as a research chemist with I.C.I. and after the War spent seven years at the Atomic Energy Research Establishment at Harwell.

He was seconded to Canada on various occasions during his time at Harwell, and worked at Chalk River and at the Bureau of Mines in Ottawa.

Since 1953 he has been with Rhoanglo Mine Services Limited in Northern Rhodesia.

Mr. L. S. Herbert has been appointed to the same Section as a Research Officer.

He comes to us from the Explosives Research and Development Establishment of the British Ministry of Supply.

He will work on the de-salting of water at Fishermen's Bend.

He served in the R.N.V.R. during the War, and is married with two children.

Mr. J. C. H. McAdam has joined the Section as an Experimental Officer.

For the past twelve years he has been a Biochemist in the Commonwealth Serum Laboratories.

Mr. A. J. Kopetsky, a former Czech national, was born and educated in Harbin, in north China.

He graduated as an electrical engineer from the University of North Manchuria, and the Harbin Polytechnic Institute.

He will take part in the testing and development of new

instruments in the Division of Electrotechnology.

Mr. H. Surkevicius is a graduate of the University of Kaunas in Lithuania and an Associate of the Royal Australian Chemical Institute.

He will take part in the investigations of the physics and chemistry of plaster in the Division of Building Research.

Miss Margaret Detmann has been appointed to the Soil Mechanics Section.

After taking her B.Sc. Agr. in Melbourne, she went to England and worked at the Rothamsted Experiment Station in Hertfordshire. She received an M.Sc. at the University of London in 1957.

On her way home to Australia she visited various research establishments in the U.S.A.

Mr. Coles Reappointed

THE Governor-General has reappointed Mr. A. W. Coles as a part-time member of the Executive for three years. The appointment dates from 26th March.

Mr. Coles joined the Executive three years ago.

Dutch Astronomer for Radiophysics

Dr. C. de JAGER, an astronomer from the University of Utrecht, will come to Australia later this year to take up a Senior Research Fellowship in the Division of Radiophysics for two years.

Dr. de Jager is President of the International Astronomical Union sub-commission on stellar atmospheres.

He is 37 years of age and will bring his wife and four children with him.

NEW CLASSIFICATION

Administrative Officers

A NEW group of classifications is being introduced to cover work which is essentially administrative but non-technical in nature. This should provide increased opportunities for advancement to members of the clerical staff who obtain higher qualifications.

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 classifications 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-

dividually with Chiefs and Officers-in-Charge.

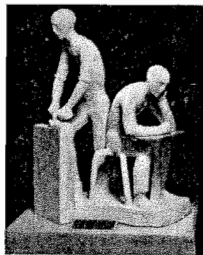
Advertisements have been issued inviting applications for appointment to positions of Divisional Administrative Officer where it has already been agreed with Chiefs and Officers-in-Charge that such positions be established in particular Divisions or Sections.

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 have been called for and the conditions attaching to such appointments have been set out.



Exhibition motif was based on sculpture presented to the division by the U.K. Building Research Station. Entitled "The end is to build well", it symbolizes designer and builder.

BUILDING RESEARCH ON SHOW

OVER 2000 visitors thronged the laboratories of the Division of Building Research at Highett during two very successful Open Days on 4th and 5th March. Some sixty exhibits illustrated work on building materials such as tiles, concrete, fibrous plaster, bricks, and glass, and also on the heating, lighting, and acoustics of buildings.

THE EXHIBITION was formally opened by Professor A. J. Francis, Chairman of the Building Research Advisory Committee.

"In an age so occupied with thoughts of destruction, it is very satisfying to be associated with such an elemental human need as the provision of a roof over one's head," he said. "This is so specially on a day like this," he added as heavy rain commenced.

Professor Francis recalled that when the Division was established in 1945, voices were raised wondering why it was necessary. Nowadays the need for such research is realized throughout the world.

But financially, he said, building research is still in the 19th century. It receives only two per cent of the amounts spent on research in certain other industries.

Yet, if the building industry in Australia could become as efficient as its American counterpart, £100,000,000 could be saved every year.

Welcome

Ian Langlands, Chief of the Division, welcomed Professor Francis and the official guests. He said that a number of the more decrepit buildings on the site looked as though they had been taken from the later scenes of "On the Beach".

He explained that these were experimental buildings used for the study of the effects of exposure on certain materials.

Dr. Bastow, Chief Executive Officer of C.S.I.R.O., thanked Professor Francis for opening the exhibition. He apologised

for the absence of the Minister, Mr. Casey, and the Chairman, Sir Ian Clunies Ross.

Music Bowl

One of the most interesting exhibits showed a model of the recently opened Sidney Myer Music Bowl.

Officers of the Division had acted as acoustic consultants for this project.

The highly successful sound quality had been achieved by the use of vertical lines of speakers and by an acoustic impedance device.

The speakers produced a beam of sound narrow in the vertical plane but broad in the horizontal.

In the impedance device, sound is recorded on a very fast-moving tape, and taken off at the pick-up heads very soon afterwards. It is used to ensure that sound from the stage and sound from the amplifiers reach the ear of the listener at the same instant.



Professor A. J. Francis (standing) and Mr. Ian Langlands at the opening of the exhibition.

Two youthful visitors to the Building Research Open Day explode a balloon to actuate an electronic flash camera. The equipment is used to study the stages in explosive failures.



Visitors

A number of distinguished visitors representing Government departments and authorities, architects, builders, and manufacturers were present.

Among those noticed in the crowd were Dr. R. S. Andrews (Chairman of the Gas and Fuel Corporation, Victoria), Mr. O. McCutcheon (of the leading architectural firm of Bates, Smart and McCutcheon), Mr. R. B. Lewis (Deputy Director-General of Works), Dr. F. A. Fox (Chief Superintendent of the Defence Research Laboratories), and Sir Samuel Wadham (a former member of C.S.I.R.O.'s Advisory Council).

Preparation

The Open Days were the first occasion on which the work of the Division had been displayed to the public.

A great deal of preparative work was entailed, in particular by the Organizing Committee (Messrs. J. R. Barned, R. C. McTaggart, I. C. H. Croll), the Divisional photographers, and the workshop staff.

But the exhibition was so obviously an unqualified success that Open Days will probably be held every five years.

Special Life Insurance for C.S.I.R.O. Staff

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 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 has been 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.

Laboratory Safety Precautions

A SAFETY conference of representatives of many Commonwealth Government agencies was held last month.

Dr. K. Baker (Coal) and Mr. L. Peres (Head Office) represented C.S.I.R.O.

The conference discussed the integration of safety measures and the exchange of information between various departments and instrumentalities.

C.S.I.R.O. has been invited to join a small sub-committee to collect and analyse information about present safety practices with a view to recommending prototype safety organizations for Commonwealth establishments.

The Executive has been concerned about the increasing number of accidents in C.S.I.R.O.

About a year ago the Executive

asked each Division and Section to appoint a Safety Officer to be responsible for detecting hazards, investigating accidents, and for training members of the staff in safety matters.

A committee was also appointed comprising Dr. K. Baker, Mr. L. Peres, Mr. A. J. Higgs (Radiophysics), and Mr. J. H. Elliott (Sheep Biology Laboratory), to look for safety literature suitable for distribution to Safety Officers.

During the past year the committee has held a number of meetings and has examined a large number of industrial safety publications.

None of these are suitable for the special conditions existing in C.S.I.R.O.

A safety handbook, appropriate to C.S.I.R.O. needs is

being prepared by the Committee. Help is being given by other officers of the Organization with expert knowledge of particular hazards such as radiation, workshops, and fire danger.

The handbook will be distributed to all members of the staff.

Special folders containing detailed reference material on particular hazards will be distributed to Safety Officers in each laboratory.

It is possible that the committee will continue as a Safety Advisory Committee after the handbook has been published.

Some Divisions, including Food Preservation and Transport and Soils, have already set up their own safety committees.

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).

On his way to Australia he spent some time in North America studying insect pests of apples.

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.

Dr. Jose Russell Colom is a young Spanish scientist who is spending three years as a Research Officer in the Division of Soils in Adelaide.

He is a graduate of the Universities of Granada and Valencia and before coming to Australia took his Doctor's degree in Madrid. He is working on the mineralogy of clays.

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 recently 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.

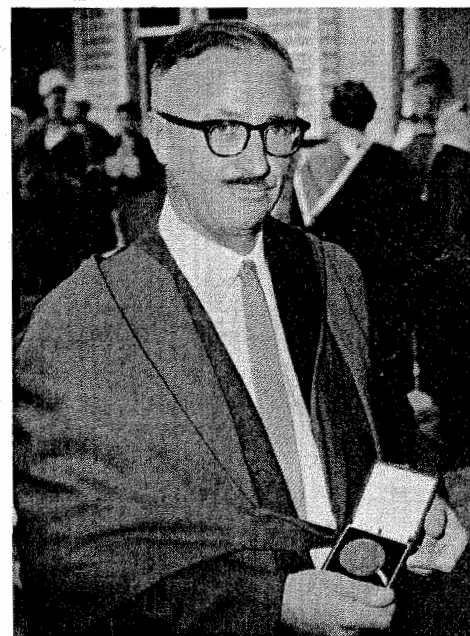
Mr. Hagenzieker is 37 years of age and is a graduate of Wageningen with a degree equivalent to M.Sc. Agric. which he obtained in 1947.

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.



SYME PRIZE WINNER

Dr. J. H. PIDDINGTON of the Division of Radiophysics, who won the 1958 David Syme research prize, was presented with his medal at the conferring of degrees ceremony at Melbourne University on March 11th.

The prize is awarded every two years for the most distinguished contribution to biology, chemistry, physics, or geology during the preceding two years.

Dr. Piddington, a radio

astronomer, won his award for a theoretical explanation of heating in the solar atmosphere and for his study of high temperature gases in magnetic fields.

Dr. Piddington has been with the Division of Radiophysics since he first joined C.S.I.R.O. nearly 20 years ago.

His work has contributed to our knowledge of the generation of atomic power by thermo-nuclear processes.

President of A.N.Z.A.A.S.

ON the 20th February Sir Ian Chumley Ross took over the Presidency of the Australian and New Zealand Association for the Advancement of Science from Professor Sir Marcus Olliphant of the Australian National University.

The Association was founded in 1888, and has held regular meetings ever since.

The meeting in Perth, to be held during Sir Ian's Presidency, will be the thirty-fourth.

Sir Ian is the third officer of C.S.I.R.O. to be honoured in this way. Sir David Rivett was President of the Auckland meeting in 1937, and Dr. A. E. V. Richardson was President of the Perth meeting in 1947.

Sir Ian was Chairman of the organizing committee of the 1955 meeting in Melbourne.

POULTRY CONVENTION

THE 1959 Poultry Science Convention, held under the auspices of the World Poultry Science Association, was held at the University of Sydney during the last week in February.

Dr. J. A. Morris of the C.S.I.R.O. Poultry Research Centre at Werribee, and Dr. J. C. D. Hutchinson of the Sheep Biology Laboratory, Prospect, gave papers at the convention.

Mr. F. Skaller, Officer in Charge of the Poultry Research Centre at Werribee was chairman of the session on genetics.

Burglary at Ryde

DURING the weekend of Friday, 27th February, to Monday, 2nd March, the premises of the Division of Textile Physics at Ryde, New South Wales, were burgled.

The sum of £117 was stolen from the office.

Detectives of the New South Wales Police Department are investigating.

The Seals of Macquarie Island

A new colour film has been produced by the Film Section.

THE film is entitled "The Seals of Macquarie Island".

The film is of 13 minutes duration, and is a companion to an earlier film entitled "The Penguins of Macquarie Island".

Macquarie Island is an isolated, small island approximately twenty miles long and up to four miles wide, in the Southern Ocean half way between Australia and the Antarctic continent.

It was discovered in 1810 by sealers searching for the valuable Fur Seal. Now it is a sanctuary and teems with wildlife, including seals, penguins,

albatrosses, petrels, and other birds which use the island as their breeding ground.

The film deals with the life history, habits, and behaviour of the Fur Seal and the Elephant Seal which home on Macquarie Island.

Only in recent years has the Fur Seal returned to the Island after being virtually wiped out by the early sealers. Rusted relics of windlasses and boilers are a reminder of the period of ruthless exploitation.

The Elephant Seals more quickly recovered from the

ravages of the sealers and now inhabit the island in thousands.

Their life ashore, particularly inside and outside the harems, the play of the pups, the sparing of the immature adults, and, at times, their almost human antics, add interest to the film.

"The Seals of Macquarie Island" has been entered for the Cannes Films Festival in a section sponsored by the European Broadcasting Union for short films suitable for television.

Printed by C.S.I.R.O., Melb.

Visit of Eminent Statistician

SIR RONALD FISHER, F.R.S., who has just retired from the Balfour Chair of Genetics at Cambridge, arrived last month to take up a Senior Research Fellowship in the Division of Mathematical Statistics.

He will spend six months in Australia.

He will collaborate with officers of the Division in their research programme and will conduct a course of lectures and seminars on statistical method and scientific inference.

He will also discuss current statistical problems with research officers in various C.S.I.R.O. laboratories.

His visit will be of particular interest to officers engaged in research in genetics and animal breeding.

Sir Ronald is the author of several books, including "Statistical Methods for Research Workers" and "The Design of Experiments", which revolutionized the approach to statistical method.

They are now standard reference works on the scientific designing and programming of experiments. They systematize and unify the whole of the methods developed by earlier workers in statistics.

Sir Ronald is well known to many officers of C.S.I.R.O. as he visited Australia for a period of seven weeks in 1953.

More Space for N.S.L.

THE Divisions of Electrotechnology and Metrology will rent about 9,000 sq. feet of office and factory space in Newtown, about five minutes walk from the present National Standards Laboratory.

The space comprises two storeys of a seven-storey building, previously used by the Alpha Knitwear Company, and the ground floor in an adjoining single-storey structure.

The new premises will be leased for a period of four to five years, and will considerably relieve the present congestion in the National Standards Laboratory.

It is hoped that the Division of Radiophysics will have acquired a new building by the time the lease expires, and that the space vacated will accommodate the three Divisions of the National Standards Laboratory.

Tickets to Europe

Three Senior Scientists are leaving Australia shortly to attend international conferences.

Dr. J. M. COWLEY of the Division of Chemical Physics will leave Australia next month on a short visit to Russia.

He will present a paper to the International Union of Crystallography at a meeting in Leningrad.

Dr. Cowley is an original member of the Commission of Electron Diffraction which was set up by the International Union at its Montreal meeting.

Mr. E. W. Hicks of the Division of Food Preservation and Transport has been invited to visit India in July.

He will lead a Symposium in food science which the United Nations Food and Agricultural Organization is organizing for East Asian scientists.

Mr. Hicks will then go on to Copenhagen to present a paper to the Tenth International Congress of Refrigeration.

Mr. Roy Muncey of the Division of Building Research leaves this month for Africa, Europe and North America.

He will visit the West African Building Research Institute at Accra in Ghana, to see work being done there in tropical architecture.

Whilst in Europe he will give a paper to the Third International Congress of Acoustics in Stuttgart, West Germany.

Mr. Muncey was concerned with the sound reinforcement system of the Sidney Myer Music Bowl in Melbourne, and will discuss his experiences in this regard with interested people overseas.

Students Tax Free

THE COMMISSIONER of Taxation has decided that holders of C.S.I.R.O. Studentships shall not be liable for taxation.

Previously it had been ruled that studentship grants were tax free only if the student was working for a higher degree.

CORESEARCH

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

— NUMBER 2, MELBOURNE, MAY 1959

\$100,000 from Rockefeller

PLANT INDUSTRY AND ENTOMOLOGY are to get \$100,000 from the Rockefeller Foundation for special items of equipment.

THIS generous gift follows a visit to Canberra a few months ago by Dr. Robert F. Chandler, Jr., an Associate Director of the Rockefeller Foundation.

He was impressed with the importance of the work of the Canberra laboratories and with the calibre of the scientific staff.

Before returning to America, he suggested to Dr. Frankel and Dr. Waterhouse that they might apply to the Foundation for grants.

The Board of Trustees of the Foundation reached the decision to make the grant of \$100,000 at its meeting on 1st April.

The \$75,000 (£A34,000) which are allocated to the Division of Plant Industry will be spent on equipment for the Division's nitrogen fixation project.

Top priorities are for a mass spectrometer (£10,000) and for the radioactive sources which will be used to induce mutations in nitrogen-fixing organisms (£12,000).

The remaining £12,000 will be used to buy an ultracentrifuge.

\$25,000 (£A11,000) has been allocated to the Division of Entomology.

£5,000 will be used to purchase an infra-red spectrophotometer, which will be used for the study of insect waxes and other lipoids of importance

to insect physiology and biochemistry.

£4,000 will be spent on a preparative ultracentrifuge and £2,000 on electro-physiological equipment.

This is the second large grant C.S.I.R.O. has received from the Rockefeller Foundation in recent years.

Four years ago, the Foundation provided \$250,000 towards the cost of the Giant Radio Telescope which will be constructed for the Division of Radiophysics at Parkes, New South Wales.

FIRE IN THE ANTARCTIC

A FIRE occurred in one of the huts of the Australian National Antarctic Research Expedition on Macquarie Island on 31st March.

An ozone spectrophotometer, valued at £2,750, belonging to the Division of Meteorological Physics was among the items of scientific equipment which were destroyed.

The instrument was one of three being used in a measuring network for ozone observations.

It will be replaced by a new instrument as soon as possible.

Generous Foundation

The Rockefeller Foundation was established by the American oil millionaire John D. Rockefeller in 1913. Its purpose was "to promote the well-being of mankind throughout the world".

The Foundation makes grants to medical education and public health, biological and medical research, agriculture, and the humanities.

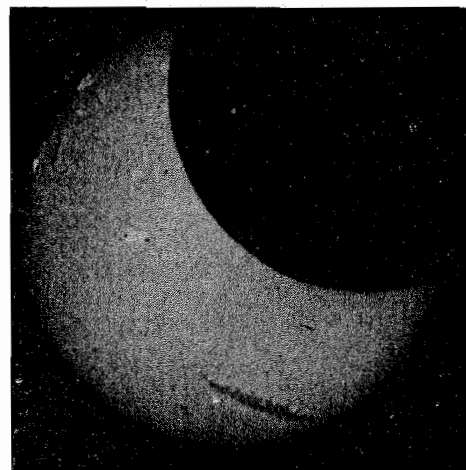
The assets of the Foundation have a current market value of more than \$500,000,000, and a sum of about \$40,000,000 is given away each year.

Since its inception 46 years ago, the Foundation has given away more than \$600,000,000. Grants are made to institutions in many countries of the world.

The Foundation's resources and policies are controlled by a self-perpetuating board of unsalaried trustees.

John D. Rockefeller's gifts were among the greatest in modern philanthropy.

N.S.L. Shoots Eclipse



This photograph of the eclipse of the Sun on Wednesday, 8th April, was taken through a monochromatic filter by the Division of Physics as part of its study of activity on the Sun's surface.

South Coast Salvage

ON Friday, 10th April, during heavy weather, with the wind blowing from the southwest, the 30-foot tuna fishing vessel "Tusan" broke from her moorings at Bermagui on the south coast of New South Wales.

All boats in the area and Montagu Island lighthouse were alerted, but despite searches by all boats and by fishermen along the shore, no trace was found by Monday.

The F.R.V. "Marelda", of the Division of Fisheries and Oceanography, was working a traverse out from Ulladulla on that day when she sighted the "Tusan" down by the head because she had shipped water.

The "Marelda's" Skipper, Ron Greig, brought the vessel alongside the derelict.

Jack Robins, the Research Officer in charge of tuna research, jumped aboard the "Tusan" and attached a tow rope to the head, but she towed so erratically that the rope was changed to the sternpost.

Against a north-west wind, current and swell, they towed the wallowing tub towards Bateman's Bay.

They radioed Ulladulla Fishermen's Co-operative, who

notified the owner of the salvage.

The towing line parted once. It almost caught in the propeller and they had to shelter outside Bateman's Bay awaiting the tide to get them over the bar.

While they waited they pumped the water out of the "Tusan" and towed her in to her anxious owner.

He offered to pay expenses and a reward, but the boys decided that the goodwill of the fishermen would be their best reward.

D.Sc. for Chief

Dr. H. R. MARSTON, Chief of the Division of Biochemistry and General Nutrition, was honoured by the University of Adelaide at its Annual Commemoration on 8th April, by the conferring on him of the degree of Doctor of Science *ad eundem gradum*.

State Committees

THE Governor-General has appointed C.S.I.R.O. State Committees for a further three-year term ending on 31st December, 1961.

There has been some change in membership of the Committees, but most of the retiring members have been reappointed.

We now have new Chairmen

for the State Committees in Queensland, South Australia and Tasmania.

They are: Mr. R. S. Wilson, prominent Queensland cattleman; Professor J. G. Wood, Professor of Botany in the University of Adelaide; and Professor H. N. Barber, Professor of Botany in the University of Tasmania.

THIS MONTH

Open Days at National Standards Laboratories on 1st May.

Open days at Canberra Laboratories on 6th and 7th May.

Executive meets in Melbourne on 14th May.

Advisory Council meets in Adelaide on 27th and 28th May.

MORE LAND FOR HOLIDAY CLUB

THE Anglesea Holiday Club has bought two more blocks of land at Anglesea, Victoria, adjacent to its existing holdings.

No extension of the Club's activities is planned, but the extra area will ensure the privacy of the existing living units.

The Club was formed in 1948 as a co-operative movement to provide members of C.S.I.R.O. staff and their families with holidays at the seaside at reasonable cost.

The success of the scheme can be gauged by the fact that the members are still paying the original weekly rental of 30/-.

Three self-contained compact flats are provided on the site, which is remote from the highway and yet close enough to the main beaches and other facilities.

Members are expected to carry out two day's work on maintenance and improvement each year, but apart from this

the Club makes no other demands on them.

The flats are in great demand during the school holidays. At other times bookings are easily obtained and members may nominate their friends for periods up to two weeks.

A few memberships are

available at present and anyone interested should contact the Secretary, Mr. R. G. Vines, at the Chemical Research Laboratories.

Enquiries about bookings should be addressed to the Booking Secretary, Mr. Stan Evans, at Head Office.

Home Finance

ABOUT 50 members of C.S.I.R.O. staff have been helped by a small committee set up by the Executive, in securing finance for a home purchase.

The Committee has helped officers to obtain first mortgage money to erect or buy a house.

Their experience indicates that the financial institution with which they have been in contact is more sympathetic to requests on behalf of the scientific staff than from others.

However, the Committee is willing to examine a proposal from any member of the staff. If the proposition is judged to be sound the Committee will try to negotiate a loan for the officer concerned.

So far, only properties in capital cities have been accepted for assistance.

Any member of the staff who is trying to raise money to acquire a home is invited to write under personal cover to Mr. M. G. Grace, Secretary (Finance and Supply).

Philippines Science Head Visits Australia

DR. PAULINO GARCIA, Chairman of the newly-created National Science Development Board in the Philippines, is to visit Australia this month.

HE is at present setting up the Board and its associated organizations.

His visit is being arranged under the Colombo Plan.

Purpose of Dr. Garcia's visit is to discuss the organization and administration of Government scientific agencies in Australia, particularly C.S.I.R.O.

Dr. Garcia graduated as Doctor of Medicine at the University of Santo Tomas and is regarded as the leading radiologist in the Philippines.

Because of his ability as an organizer and administrator, he

was appointed to the Philippines Cabinet as Secretary of Health.

He occupied this post for several years until 1958. He then assumed his present position with Cabinet rank.

Dr. Garcia is expected to spend from 10th to 20th May in Melbourne, 21st to 27th May in Canberra, and 28th May to 9th June in Sydney.

He will visit C.S.I.R.O., University, and other scientific groups and will also see something of medical research and hospital services.

S(COR)



"Digsby! A sheep with bear's fur! Think what it means—the Guards can have their bearskins made of WOOL!"
Courtesy: "The Advertiser", Adelaide.

DARWIN CENTENARY

A hundred years ago this year, one of the world's most famous books was published.

It was called "On the Origin of the Species by Means of Natural Selection" by Charles Darwin.

The book has had a vast influence on science and philosophy in the 100 years since its publication.

The centenary of its publica-

tion is being celebrated this year in a number of scientific meetings throughout the world.

The Australian Academy of Science is holding a symposium in Canberra on May 8th to honour the occasion.

Papers will be given by seven distinguished scientists including Dr. O. H. Frankel, Dr. J. M. Rendel, and Sir Ronald Fisher, from C.S.I.R.O.

Mr. J. M. BECKERS, a young Dutch astronomer from Utrecht, has accepted a fixed-term appointment in the Division of Physics.

He will take part in the Division's programme of work on solar spectroscopy. Mr. Beckers and his wife are en route to Australia at the present time.

Mr. R. H. Brockman, who has been appointed to a position in the interferometry laboratory of the Division of Metrology, is an Englishman.

For 12 years he was Chief Optical tester for the firm of Adam Hilger (now Hilger & Watts).

Since coming to Australia he has been employed by the Commonwealth Observatory. Mr. Stromlo, and the John Curtin School of Medical Research.

Mr. D. G. Cartwright has joined the staff of the Upper Atmosphere Section. He is an honours graduate in physics from the University of Tasmania and has been a licensed radio "ham" for the last three years.

Mr. J. S. Colville has joined the Division of Soils as a physicist. He was a lecturer in physics at the University of Queensland from 1951-53.

More recently, he has been on the staff of the Weapons Research Establishment in South Australia.

Mr. F. M. Currey, a radio engineer, has joined the Division of Electrotechnology. Since taking his diploma in 1951 he has been on the staff of A.W.A. Ltd. in Sydney.

Dr. R. J. Harrison, who has joined the Coal Research Section, spent two years at North western University, Illinois, U.S.A., after taking his Ph.D. in Sydney.

He has also held a Research Fellowship in the School of Medical Chemistry, Australian National University.

Miss Rosemary Mullens, who took her B.Sc. (Hons.) degree at the University of Sydney last year, has joined the Plant Physiology Unit of the Division of Food Preservation and Transport.

Mr. R. J. North, who was once a technical assistant in the Division of Fisheries and Oceanography, has completed a science degree at the University of Sydney and has rejoined the Organization.

His new appointment is as an assistant electron microscopist in the Division of Food Preservation and Transport.

Mr. A. J. Pritchard has just arrived in Australia to take up a position as plant breeder in the Plant and Soils Laboratory at Brisbane.

He is a graduate of Birmingham, and has diplomas in agriculture from Cambridge and the Imperial College of Tropical Agriculture, Trinidad.

Before joining C.S.I.R.O. he did a three-year tour of Uganda, studying the coffee plant.

Mr. B. G. Richards has joined the staff of the Soil Mechanics Section.

Since graduating B.E. (Hons.) from the University of Adelaide in 1956, he has been engaged on research, structural design, and highway construction with the S.A. Department of Highways and Local Government.

Dr. Henryk Silberman, an organic chemist who has been appointed to the Coal Research Section, has had a varied and interesting career.

Polish by birth, he is a graduate of the University of Vienna. Before the war he worked in Germany, Switzerland, and Russia.

He came to Australia in 1939, and was Chief Chemist with a Sydney pharmaceutical firm for 9 years.

He was naturalized in 1945. He then held a University post

in Sydney for several years, and lately he has been Professor of Chemistry in the University of Indonesia.

Mr. W. K. Smith has been appointed as engineer to the "Derwent Hunter", research vessel of the Division of Fisheries and Oceanography.

A north country Englishman, Mr. Smith has had five years at sea. He recently landed in Australia as Second Engineer on a delivery voyage bringing a ship from Lisbon to her owners, the Shell Company.

Dr. B. D. Stacey has been appointed to the Sheep Biology laboratory, Prospect.

He is a West Australian who took his Ph.D. at the Postgraduate Medical School, London, in 1955. Since 1955 he has been a Biochemist at Sydney Hospital.

Mr. David Williams, an agriculture graduate from Melbourne, has joined the staff of the Sheep Biology Laboratory, Prospect. He will study the factors influencing survival in newborn lambs.

Mr. R. A. Williams, a graduate in engineering from the University of New South Wales, has joined the Division of Metrology.

He was formerly on the staff of the Department of Defence Production, and has more recently been a planning engineer in the Department of Supply.

Dr. Bastow Reappointed

THE Governor-General has re-appointed Dr. S. H. Bastow as a member of the Executive for a further period of five years from 20th May.

Polar Weather

FOUR members of the Division of Meteorological Physics recently attended the International Symposium on Antarctic Meteorology in Melbourne.

The symposium was organized by the Bureau of Meteorology and was attended by over 60 representatives from Argentina, Belgium, France, Japan, New Zealand, South Africa, Russia, Britain, and United States, and by the Chief of the Technical Division of the World Meteorological Organization, Dr. Langlois.

Interpreters in French and Russian were provided.

Dr. F. A. Berson, Mr. F. K. Ball, and Mr. R. H. Clarke, of the Division of Meteorological Physics, presented papers.

Dr. C. H. B. Priestly represented the Australia Academy of Science and chaired the session of "Heat and Mass Exchanges".

Australian Universities and several other institutions took part in the symposium.

Map Highlights Activities

A handsome display board depicting the work of C.S.I.R.O. has been constructed.

It will be used at exhibitions and open days, and by people giving lectures on the work of C.S.I.R.O.

The centre piece is a large map of Australia made of selected veneers. A representative local timber is used for each State.

The map is surrounded by 28 large colour transparencies, each illustrating one of C.S.I.R.O.'s fields of research.

When a pointer on the control panel is turned to a

selected subject, lights on the map indicate where work in this field is being carried out. At the same time, a light comes up behind the appropriate picture.

Alternatively, all the pictures may be illuminated at once.

Construction of the display board has been a co-operative venture. Mr. W. F. Evans, of Head Office, planned and designed it.

The timber map was made in the workshops of the Division of Forest Products.

The photographs were enlarged on to Ektachrome at the Division of Building Research. Electrical wiring was

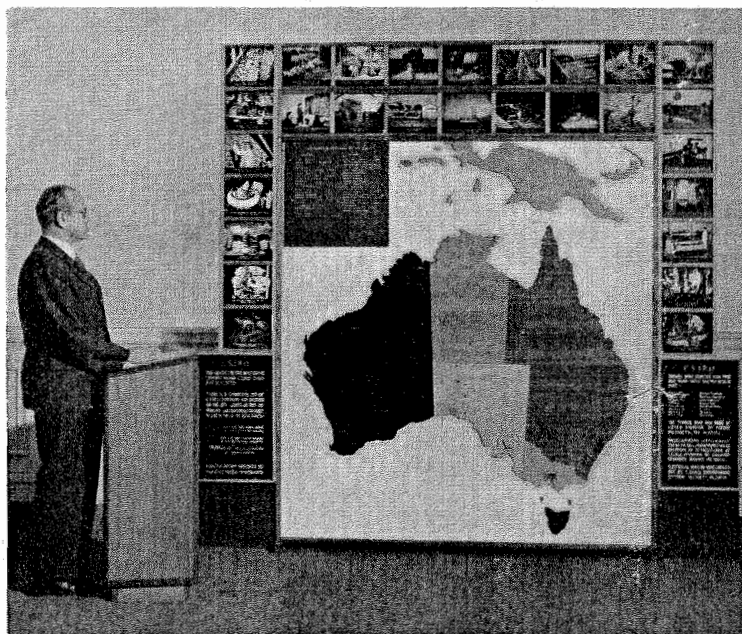
done by the Engineering Section.

The Board may be kept up to date by changing the photographs from time to time, and by putting new lights on the map.

It has already been used in Melbourne and Ballarat, and will make its first interstate trip this week, when it goes to the Open Days at Canberra.

It is available to any part of C.S.I.R.O. or to outside groups.

Mr. W. F. Evans at the control panel of the display board.



BIRD BAGS BOY

ON Saturday, 4th April, a seagull fell from the sky at Port Adelaide, hitting a seven year old boy on the head.

The exhausted bird had a band around its leg, put there by the Wildlife Survey Section.

The boy and his father took the bird home, fed it with meat and water, and nursed it back to health and strength.

FOUNDRY COKE SYMPOSIUM

THIRD Symposium on "The Production Properties and Utilization of Foundry Coke" was held by the Coal Research Section at North Ryde on 24th and 25th March under the chairmanship of the Officer-in-Charge, Mr. H. R. Brown.

Some eighty representatives of industry were present.

Opening the Symposium, Dr. F. W. G. White, Deputy Chairman of C.S.I.R.O., said that it is only with the help of industry that C.S.I.R.O. can secure the early application of the fruits of its researches.

This Symposium offers an opportunity to the foundry and

steelmaking industry, which is basic to most of the engineering development in Australia, to consider how research can improve its productive capacity, he added.

Representatives of the coke manufacturers and the foundry interests took an active part in the discussions on the seven papers presented, and keen interest was shown in a film dealing with the petrographic constituents of coal during the carbonizing process.

Later the delegates inspected the laboratories and discussed their specific problems with the research staff of the Section.



RAINMAKERS GET NEW AIRCRAFT

APPROVAL has been given for the Division of Radiophysics 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.

The new aircraft has just arrived in Australia after an adventurous 8,500 mile flight from America.

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.

It was lost in heavy cloud near the Hawaiian Islands when its radio direction finding equipment became defective.

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.

Visit from N.Z. Radiophysicist

Dr. H. A. WHALE, of the Seagrove Radio Research Station, University of Auckland, will visit Australia this month.

He will spend a few days in Sydney having technical discussions with officers of the Division of Radiophysics and other people interested in long distance radio propagation.

He will travel to Melbourne on 19th May to address a meeting of the Consultative Committee on Radio Research.

Broadcasts

Mr. M. OLSON, a Senior Research Officer of the Division of Fisheries and Oceanography will be interviewed by Mr. Frazer Parkes on the A.B.C. programme "The Country Hour", at 12.48 p.m. on Wednesday, 6th May.

The subject of discussion will be "School Sharks and Scallops".

On Friday, 8th May, at 10 p.m., Dr. J. M. Swan, of the Division of Protein Chemistry, will give a talk on 3LO Melbourne.

His subject will be "Language of Science".

Kimberleys Survey

THE Division of Land Research and Regional Survey will send a survey team into the West Kimberleys this year.

These mountains, in the far north of Western Australia, are thought to have a very great agricultural potential.

The Division has surveyed other parts of the Kimberleys before, and a short preliminary survey of the western part was made in 1952.

The services of the Division's survey team are in great demand. At a recent meeting held to assign priorities, the claims of nine major regions were considered.

Science in Japan

By G. B. Gresford, Research Secretary (Physical Sciences)

Vigour and purpose sums up my impressions of Japanese scientific research. Their laboratories are usually extremely well equipped by our standards.

Research development has been a feature of post-war reconstruction.

The energy and drive of the build up of scientific resources, particularly during the last five years, is most striking.

The traditional pattern of government scientific research in Japan has been to put research institutes in the various Ministries, e.g., the National Institute of Agricultural Science in the Ministry of Agriculture and Forestry, the National Institute of Health in the Ministry of Health and Welfare.

C.S.I.R.O. Equivalent

A new move started in 1956 with the establishment of the Science and Technics Agency.

This is a central organization of scientific administration to co-ordinate and encourage government scientific activity in developing the nation's economy.

It is the nearest equivalent in Japan to C.S.I.R.O.

It advises the Government on the programmes and budgets of laboratories in the various Ministries.

Burglary at H.O.

DURING the week-end of 4th-5th April thieves broke into Head Office.

They forced a filing cabinet and opened a safe. Stamps to the value of £106 were stolen together with a number of tickets for "My Fair Lady" (the property of the Social Club).

The theatre tickets and nearly all the stamps were recovered next day. They were found in lanes in East Melbourne.

Police enquiries are proceeding.

Luck's a Fortune

STAFF at the Division of Food Preservation are congratulating Mrs. M. E. Hooper, their Canteen Manager, on winning the New South Wales State Lottery for the second time.

Mrs. Hooper has now collected £6,000 from the lottery twice in three years.

Driver Les Davis shared Mrs. Hooper's win. He bought the winning ticket for her and she rewarded him with a television set.

It has also set up its own laboratories in fields where it considers the national research effort is inadequate.

Mr. Gresford has just returned from a brief visit to Japan. He went there as scientific adviser to the Minister in Charge of C.S.I.R.O. (Mr. R. G. Casey) who was discussing scientific co-operation between Australia and Japan with the Japanese Government.

In the last two years it has formed a National Research Institute for Metals. This already has a professional staff of 50 and equipment and pilot plant which would make most Australian laboratories envious.

A National Aeronautical Laboratory has been established in the same period. Its total cost, to be spread over six years, will be £A7 million.

The major item of equipment is a transonic wind tunnel which is almost complete.

Atomic Energy

The Japan Atomic Energy Commission is attached to the Science and Technics Agency.

It has been built up from nothing in about three years, and now employs 90 professional officers and a total staff of 750.

I visited its Research Institute at Tokai-Mura, about 70 miles north of Tokyo.

A 10 MW reactor is in operation and two larger ones are under construction.

Magnificent laboratories for chemistry, physics, medical physics, and metallurgy have been completed.

There is a complete absence of security.

The public is invited to come and see, and the day I was there large parties of school children were looking at the reactor and afterwards picnicked on the campus.

FIELD DAY AT RODD'S BAY

A FIELD DAY was held on Thursday, 30th April, at Rodd's Bay, Queensland.

Rodd's Bay is in the spear-grass region, about 300 miles north of Brisbane, and 100 south of Rockhampton.

The Plant and Soils Laboratory has several experiments going on there.

Invitations were issued to local branches of grazier, dairy, and junior farmer organizations, to officers of the Queensland Department of Agriculture and Stock, University people and others in the area.

Total Government appropriations for research in 1957 are £A27 million. This includes £A9 million for atomic energy research.

Although in the older establishments buildings are often dilapidated, equipment is usually provided on what is by our standards a lavish scale.

The Japanese instrument industry flourishes, particularly in the optical and electronic fields, and many of its products are most impressive.

Electron microscopes (there are several Japanese manufacturers) are almost commonplace in most laboratories.

A special effort seems to have been made on electronic equipment for use of isotopes.

Research by Industry

Most of the large industrial combines have central research institutes.

I visited the laboratories of Hitachi Ltd. near Tokyo. They employ about 100 graduates and spend about £A500,000 each year.



No Ladders in Nylon Banners

Two processes patented by C.S.I.R.O. in 1950 and 1952 are finding new uses in 1959.

BOTH processes are for the treatment of synthetic materials with synthetic resins to increase their resistance to abrasion, snagging, and felting.

The material fibres are joined or "bridged" with filaments of synthetic resin. Apart from the other advantages of these processes they have a shrink-proofing function.

One of the processes, the SI-RO-CHEK process, is being used by the R.A.A.F. for treating nylon target banners which are towed behind aircraft.

These banners, formerly made of cotton, measure 30 ft. by 6 ft. They used to cost £45, and could only be used once, as the rapid airflow ripped them to pieces.

Nylon banners, treated by the SI-RO-CHEK process, only cost £30, and can be used up to 12 times.

So far, over 250 of them have been supplied to the R.A.A.F. by Messrs. Humphrey Law & Co., C.S.I.R.O.'s licensees under the patent.

The other process, known as the SI-RO-FIX process, is one of several shrink-proofing

methods being tried out in an experiment upon blankets.

Mr. Pressley, of the Division of Protein Chemistry, Wool Research Laboratories, is conducting the experiment at the Royal Melbourne Hospital.

Hitherto, hospital blankets have been sterilized instead of washed, but new shrink-proofing methods made washing economically worthwhile.

The SI-RO-FIX process has been very successful under test. Blankets treated by the process have been washed over 200 times with very little deterioration.

WHAT I SAW IN RUSSIA

By Dr. R. J. Swaby

SCIENCE is well regarded in Russia and professors at Universities and directors of research institutes live in luxury compared with the rest of the population.

However, their opposite numbers in Australia would not envy them.

Their salaries are high and the cost of food is moderate, but even minor luxuries like good quality furniture, furnishings, and clothes are very expensive.

Money prizes are given for text book writing and many augment their salaries in this way.

Consequently, there are more Russian text books on my subject of soil microbiology than from the rest of the world. Their research output has not kept pace with this development.

Usually a research director lives in a small flat in the city, with relatively modern conveniences in the kitchen and bathroom, but often these are shared with a second family.



Dr. R. J. SWABY

During the summer holidays his family stays in a small cottage in the country. The cottage is not heated in the winter so it can only be used in warmer weather.

Some directors drive their own cars, but more often they use a car belonging to the Institute.

University lecturers and scientists in the research officer group live in crowded flats, sometimes modern, but mostly older types.

Nearly always they share kitchens and bathrooms.

I was disbeliever when I said that laboratory assistants in my group worked only 37 hours a week, had cars, and lived in a house of their own.

Research Laboratories

Scientific institutions vary all the way from the University of Moscow, a modern skyscraper equipped with the latest apparatus, to a dilapidated old laboratory called the Research Institute for Farming in Central Districts of the Non-Chernozem Belt, where microbiologists have only test tubes, plates, and inoculating needles to study complex problems in soil microbiology.

In general the laboratory buildings are only slightly inferior to those in Australia, but apparatus is less plentiful.

Medical and physical sciences enjoy better facilities than agriculture, which seems to be the "cinderella" science in Russia despite the large rural population.

Travel Problems

Foreign scientists attending conferences in Russia are catered for very well.

The individual seeking those interested in his special field has a much more difficult time.

Dr. R. J. SWABY, Microbiologist in the Division of Soils, Adelaide, gives his impressions of a scientist's life in Russia. He has recently returned from a visit to 16 research institutes in the U.S.S.R.

Apart from the complexity of visas, you must adhere rigidly to an itinerary and many scientists do not speak English.

You must buy a comprehensive travel ticket from the Intourist Office at a cost of £12 a day.

This ticket covers—

- the exclusive help of an interpreter (vocabulary adequate for tourists but not sufficiently technical for scientists);
- first class hotel accommodation (second or third class by our standards, red soap that stains white nylon shirts, no plugs in hand basins, rarely power points for electric razors);
- meal coupons (covers meals worth 75 shillings a day, more food than the most gluttonous can eat, but with no refund on unused coupons and only chocolate at 20/- per 100 grammes as change);
- use of a car (Cym, Pebeda, or Volga) and chauffeur (in shirt sleeves and no ties, as in Australia) for three hours a day to travel to institutes and collective farms;
- all plane (or train) travel in Russia (mostly inferior to similar transport in Australia, but comfortable except when landing on muddy airstrips, no paper bags for air sickness, and no meals in the air).

Service is slow—I found it hard to make Russian waitresses realize that 1 hour for breakfast, 1½ hours for lunch and 2 hours for dinner is too long when appointments with members of the Academy of Science are to be kept.

There is no tipping in Russia. I found difficulty in getting the interpreters or car drivers to accept a cigarette—even one of ours which are twice as long as theirs.

Living Conditions

Photography is hardly restricted but colour films are not available.

Shopping is best done at the Intourist Hotel for minor items. Other goods come from large stores and you must queue at the counter to select them, queue to pay the cashier, and queue again to collect the wrapped purchases.

There is no bargain hunting since prices are uniform throughout all shops in the town. However, wayside vendors ask exorbitant amounts for fresh fruit and flowers.

Clothing is very expensive, unattractive, and poor in quality.

Food is fairly cheap except for fresh fruit, canned meat, sweets, and wine.

Cheap books are plentiful and many are printed in English.

Gramophone records (hi-fi, 33 r.p.m., 12 inch diameter, unbreakable plastic) of any classical work only cost 10 shillings.

Refrigerators, washing machines, radio and television sets are expensive and in short supply, but they are being made in increasing quantities.

Rainfall follows Sunspot Cycle

"MOST unexpected of all the geophysical results of 1958" is how Sir Edward Bullard described Dr. E. A. Cornish's discovery of a sunspot period in the date of onset of the winter rains in Adelaide.

Sir Edward is Assistant Director of Research in the Department of Geodesy and Geophysics at the University of Cambridge.

He was writing in a recent issue of "The New Scientist" as part of that journal's New Year science survey.

Dr. Cornish's results are based on records extending over 112 years.

They seem to provide the first case of a genuine correlation between the sunspot cycle and weather phenomena.

Dr. Cornish finds that the date of the peak of the winter rains shifts later and later each year through the sunspot cycle and then comes back again.

The start of the winter rains alters by about four weeks in eleven years and then gradually

changes back again over the next eleven years.

Fluctuation is between about 21st April and 30th May.

The whole cycle takes 23 years to complete.

He has traced his results through five complete cycles.

The oscillations in the Adelaide record are ascribed to changes in the paths of the belts of cyclones and anticyclones which affect Adelaide weather.

Dr. Cornish's results have now been partly confirmed by an analysis of rainfall records in Capetown.

At present we have just passed the climax of an 11-year series of late breaks. For the next decade the onset of the winter rains should become progressively earlier.

Destination Overseas

Two scientists have Fellowships to study in American universities.

Dr. C. K. Coogan, of the Division of Chemical Physics, Chemical Research Laboratories, left last month to take up a Fellowship of the National Academy of Sciences (U.S.A.).

He will spend a year in Professor Gutowsky's laboratory at the University of Illinois. He will study magnetic resonance in all its aspects.

Dr. K. S. Rowan, of the Plant Physiology Unit, Division of Food Preservation and Transport, has been granted 18 months leave from the Division.

He will leave next month to take up a Junior Research Fellowship in Biochemistry at the Department of Vegetable Crops in the University of California, at Davis. He will be accompanied by his wife and two children.

Mr. A. M. Olsen, an officer of the Division of Fisheries and Oceanography, left on a round-the-world trip last month.

Mr. Olsen is normally attached to the Tasmanian Regional Laboratory at Hobart. He will spend six months in the United Kingdom and North America.

Whilst in England, he will take a short course in the main-

tenance, use, and calibration of diving gear. He will visit other workers in the field of lobster biology in Bermuda, Miami, Los Angeles, and St. Andrews in Canada.

Mr. S. M. Brisbane, of the Cement and Ceramics Section, Chemical Research Laboratories, left last month on a trip to Europe and North America.

He will study problems of refractories for the cement and gas-making industries.

Mr. H. R. Brown, Officer in Charge of the Coal Research Section left last month for a six-weeks visit to Europe.

He will present three papers from his Section at the Third International Conference on Coal Science in Holland.

Whilst in Europe, he will discuss the World Power Conference which is to be held in Australia in 1962. The British Commonwealth Committee on Fuel Research, of which Mr. Brown is Chairman, arranges its meetings to coincide with this Conference.

Mr. C. B. Wells, of the Division of Soils, has been awarded the George Murray Scholarship of the University of Adelaide, providing for two years of overseas travel.

He is going to work on an experimental pedology project at Rothamsted in England.

Mr. L. M. Mandl, of the Division of Electrotechnology, leaves this month on a trip around the world.

He is travelling on leave, but will spend some time visiting electrical research laboratories and instrument makers in Germany, France, England, and the U.S.A.

Mr. P. Squires, of the Division of Radiophysics, leaves this month for a short visit to the U.S.A.

He will attend two conferences on cloud physics at Portsmouth, New Hampshire, and Woods Hole, Massachusetts.

Mr. R. C. Giffins, of the Physical Metallurgy Section, left last month for the United States.

He participated in a conference on "Fracture" at the Massachusetts Institute of Technology.

The conference was arranged by the United States Academy of Sciences.

He will go to the United Kingdom in the middle of May. In England, he will spend most of his time at the National Physical Laboratory.

BREAD RESEARCH BUILDING AT RYDE

Work has started on the new building of the Bread Research Institute at North Ryde, Sydney.



Mr. M. Y. TRACEY

The builders, A. W. Edwards Pty. Ltd., estimate that the building will be completed within 30 weeks.

The building will cost £67,360, of which £30,000 will be contributed by C.S.I.R.O.

It will be erected on a two-acre site on C.S.I.R.O. land at North Ryde adjacent to the proposed new laboratories of the Division of Food Preservation and Transport.

C.S.I.R.O.'s new Wheat Research Unit will be housed in the building.

The 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 this financial year, and

it is hoped that in future years the amount will be increased to allow the Unit to be built up.

The Unit will be led by Mr. M. V. Tracey, who came out from England a few months ago. He was formerly on the staff of the Rothamsted Experiment Station.

A Cambridge graduate, Mr. Tracey spent a year in Australia in 1955, working at the Melbourne Wool Textile Laboratory under a Royal Society and Nuffield Foundation Commonwealth Bursary.

He visited the Divisions of Radiophysics and Industrial Chemistry when he was last here in 1952.

He hopes to appoint an S.R.O. (Biochemist) an R.O. (Biochemist), and five technical assistants to his staff.

Sir John Cockcroft in Australia

SIR John Cockcroft, O.M., F.R.S., recently arrived in Australia on a short visit.

He is here to represent the Royal Society of London at the opening of the Australian Academy of Science building in Canberra this week.

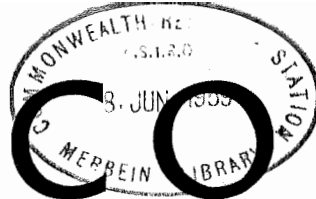
Since the war, Sir John has been Director of the Atomic Energy Research Establishment at Harwell.

He shared the Nobel Prize for Physics in 1951.

During his visit, Sir John will visit a number of C.S.I.R.O. laboratories.

Mr. Eric Bond, Director of the Bread Research Institute, will be Officer-in-Charge of the Unit.

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CORESEARCH

FOR CIRCULATION AMONG MEMBERS OF C.S.I.R.O. STAFF — NUMBER 3, MELBOURNE, JUNE 1959

WE ARE CLOSE TO MONASH

THIRTY-FIVE acres on the north-west corner of the site of Melbourne's new Monash University are reserved for C.S.I.R.O., Mr. R. R. Blackwood, Chairman of the University's Interim Council announced last month.

Monash University has a 250 acre site at Clayton, 12 miles south-east of Melbourne's G.P.O.

C.S.I.R.O. has appointed Bates, Smart and McCutcheon, who are the University's principal architectural consultants, to plan the development of the C.S.I.R.O. site.

Our land will be an independent site with its own entrance from Normanby Road.

It will be developed in conformity with the general plan adopted by the University's Interim Council.

The Division of Chemical Physics will be the first C.S.I.R.O. group on the site.

Its buildings will be planned next year and it is hoped that construction will start in 1960-61.

This will help relieve the congestion at the Chemical Research Laboratories at Fishermen's Bend.

It is expected that other units of C.R.L. will develop at Clayton in due course.

However, the site will not be used exclusively by C.R.L.

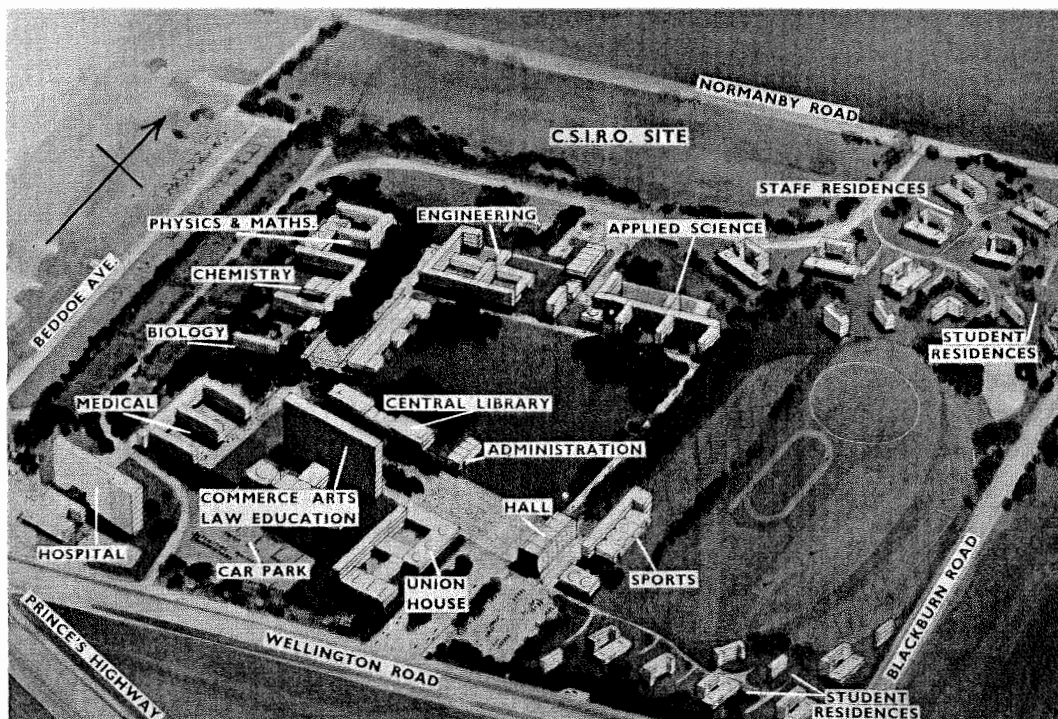
Our site is fairly flat and has been used for market gardening.

Drainage and sewerage works are now in hand and are expected to be completed this year.

Adequate electricity and gas supplies are available.

The site is accessible to the city and is well served by public transport.

It is close to good residential areas and is adjacent to the rapidly developing south-eastern industrial district.



Basic plan for the £20 million Monash University. C.S.I.R.O.'s 35-acre site is in the north-west corner.

Monash University will eventually have 8,000 full-time and 4,000 part-time students.

Residential accommodation for 3,200 students is being planned.

Included in the basic plan is a teaching hospital which will be built next to the medical school.

Courses are expected to start in 1961 and the building programme should be completed by 1968.

Advisory Council meets in Adelaide

Nineteenth Session of the Advisory Council was held at the Wine Research Institute, Adelaide, on 27th and 28th May.

Members inspected agricultural developments in the south-east of South Australia in a three day tour from 24th to 26th May.

On the evening of 27th May they were hosts at dinner to members of the South Australian State Committee.

Events in Arbitration

CLAIMS for general salary increases have been filed with various tribunals. This article outlines the present position of claims of particular interest to C.S.I.R.O.

One of the most far-reaching claims is that of the Association of Professional Engineers covering salaries of engineers in many sectors of industry and in State and Municipal employment.

The Public Service Arbitrator has also been asked to consider a number of allied claims.

Both groups of claims have been referred to the Commonwealth Conciliation and Arbitration Commission.

Additional claims before the Arbitrator include a claim by the Professional Officers' Association for variation in salaries of scientific officers in the Commonwealth Public Service and a claim by the C.S.I.R.O. Officers' Association for salary increases for Experimental Officers, Scientific Librarians, and Translators.

The hearing of these claims has been deferred and will not be heard until after the hearing of the engineers' case.

The P.O.A. has also asked for an "interim" increase of four increments without prejudice to its general claims. This case has not yet been heard by the Arbitrator.

In August 1958, the Commission decided it would consider the claims affecting engineers not in Commonwealth employment first. The Public Service Arbitrator is to attend these hearings as an observer.

The Commission then considered the extent of its jurisdiction. In December 1959, it decided that State departments are outside its province but that in general municipal

authorities and State trading instrumentalities, e.g., Housing Commissions, are within it.

As this decision weakens the "national" flavour of the A.P.E.A. claims, the Association has appealed to the High Court against the decision. The Court's ruling is still awaited.

The Basic Wage hearing has prevented the Commission continuing its examination of the engineers' case.

In the meantime two other moves have been made affecting cases other than the engineers' case.

The Commission suggested that Commissioners and the P.S. Arbitrator might take evidence on particular aspects of the cases referred to them and that this evidence might later be presented to the Full Bench.

However, when the P.S. Arbitrator asked the parties to consider this in February 1959, the Associations concerned opposed the idea and the proceedings were adjourned.

In March 1959, various Associations applied to the Commission asking for certain parts of their claims to be referred back to the P.S. Arbitrator for hearing.

The intention was to speed up the "comparative wage justice" elements of the claims. However, the Public Service Board argued that it was impossible to separate these aspects from the other grounds on which the claims were based, e.g., changed economic circumstances.

The Commission's decision on this matter is still awaited.

DIVISION OF MINERAL CHEMISTRY

THE MINERALS UTILIZATION SECTION of the Chemical Research Laboratories has become the Division of Mineral Chemistry. It is the third Division in the Laboratories.

SINCE its formation in 1940, the group has produced an impressive list of achievements.

Conspicuous success has attended its efforts to devise methods of extracting uranium from Australian ores.

The methods for extracting uranium now in use at Rum Jungle and Radium Hill are based largely on the Section's work.

Another line of research in which the group has participated has resulted in a method for roasting copper ores using the fluid bed technique and ways of purifying and electro-winning copper from the resulting calcines.

Major copper producers (Mt. Isa, Mt. Lyell, Mt. Morgan, Peko) have made substantial financial contributions to cover the cost of this work.

The Section has been very active in the study of beach sands as sources of mineral



Mr. R. G. THOMAS

wealth, and methods for the extraction of rare earths have been worked out.

Of particular interest is a new method for preparation of the important fissionable element thorium.

The discovery of an im-

proved method for separating zirconium from hafnium led to the sale of overseas patent rights for \$250,000 several years ago.

The Division's programme of research is not basically metallurgical but is concerned with the chemical transformation of minerals into a wide variety of useful products.

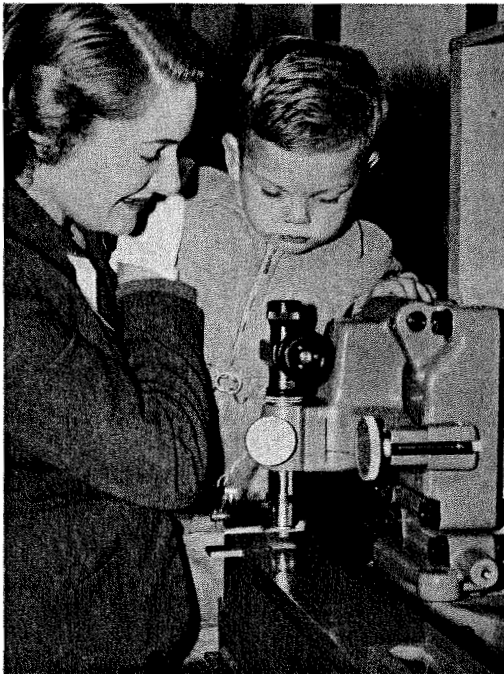
First Chief of the new Division will be Mr. R. G. Thomas who has been Officer-in-Charge of the group since its foundation.

Dick Thomas, an Adelaide man, first joined C.S.I.R. as an officer of the Division of Animal Nutrition in 1928.

When the Division of Industrial Chemistry was set up in 1940, he was one of the first staff members appointed.

Good raconteur and bon viveur, he is one of the most popular men in the Chemical Research Laboratories.

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National Standards Open Days

SENIOR executives in industry and Members of Parliament were among the 2000 visitors to the Open Days held at the National Standards Laboratory on 30th April and 1st May.

ABOUT 140 exhibits were displayed by the three Divisions of Metrology, Physics, and Electrotechnology.

As preparatory arrangements had been extended over the five months preceding the exhibition, everything went smoothly.

⚡ Mother's restraining hand was necessary to curb the enthusiastic interest shown by Paul Bates in Metrology's 4-metre standard. Paul's father is a teacher of automotive engineering at Sydney Technical College.

Metal Manufactures Ltd. of Port Kembla were represented among the visitors by Mr. L. Stewart, tool room foreman, and Mr. F. Horsfall, general foreman. Miss Mollie Dive was joined by Mr. N. A. Esserman, Director of N.S.L., in demonstrating an internal diameter measuring machine.

The number of visitors was about 15 per cent. in excess of the previous best total.

Interest seemed to be evenly spread over the three Divisions, and there was no feeling of overcrowding.

Most popular exhibits were on solar physics, aids to surgery, standard of capacitance, the new standard balance, hypodermic needle sharpening, mercury cleaning, and dimensional analysis.

Solar physics is one of the major activities in the Division of Physics.

Its spectroheliograph has been recording what is happening on the sun for about three years.

It is an important link in a chain of stations set up around the world to keep the sun under continuous observation.

Sunspots and other solar activity affect our weather and radio communication channels.

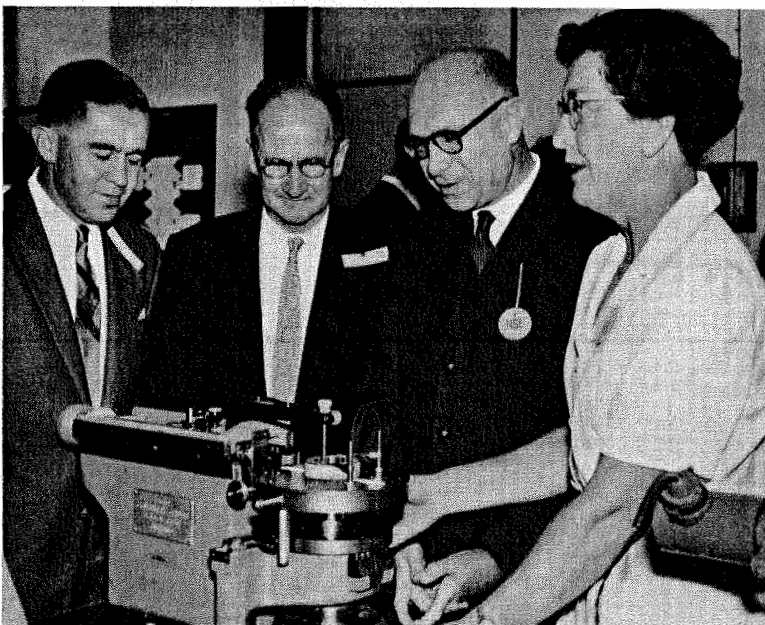
Equipment constructed to N.S.L.'s basic design for lowering a patient's temperature, stabilizing it, and then returning it to normal was exhibited.

This can be of vital importance in operations on the heart, lung and brain.

The demonstration also included a novel heart and lung machine.

Balances capable of weighing up to 30 kilogrammes with an accuracy of one part in 20 millions, and smaller balances recording to better than 1 microgramme excited considerable interest.

Two television stations sent cameramen, and the A.B.C. station presented a news item showing the Laboratory's work in solar physics.



Having Accidents

Leon Peres, our Staff Relations Officer, who has to deal with compensation cases, gives advice on what to do about reporting accidents and seeing that you get compensation benefits.

IF you happen to have an accident, even a very minor one, always report it.

Make your report as soon as you can and make it as detailed as possible.

This will safeguard your financial interests and it can save you the detailed inquisition that is often required by the compensation legislation.

You may also help someone else avoid more serious injury because you may show up a previously unsuspected hazard.

Unfortunately, C.S.I.R.O. has no discretion about how compensation claims are handled.

We must follow the detailed instructions laid down by the Commissioner appointed under the Compensation Act.

The Commissioner wants to know all the facts about an accident before compensation is paid.

If there is no witness to the accident he is very searching in his demands for information.

If there is even the slightest doubt that the accident did not occur in the course of your employment very detailed reports are required.

It is surprising how often the "difficult" compensation case follows from some minor incident that was at first regarded as not worth reporting.

Trying to get all the necessary information in these cases is usually a nasty job and often the injured person resents what he considers are insulting questions.

If you make a detailed report on all accidents you can avoid this problem.

Your Rights

If you have absences or get involved in medical expenses as a result of an accident on duty you can claim compensation.

The clerical staff will give you what seems to be a rather long-winded set of papers to read setting out your rights.

Unfortunately, this can't be condensed much more without leaving out important points.

You generally have the choice of the benefits granted by the Compensation Act or those laid down by the Public Service Arbitrator.

You have to choose and C.S.I.R.O. can't advise you how to choose.

Your choice depends on your own assessment of how long you will be away from work, what medical expenses you will have, and if you are going to lose a limb or an eye, and so on.

Except where the accident is due to an act of heroism or is caused by defective equipment or by another member of the staff, our records show that most claims are made under the Compensation Act.

It seems that in most of these cases greater benefits are paid than would have been paid under the Arbitrator's Determination.

Ask your Administrative Officer for help. He can give you a lot of good advice on how to choose and how to cope with the paper work.

University Grants

PASSAGE of the Australian Universities Commission Act by the Commonwealth Parliament was a welcome outcome of the Murray Committee Report.

The Act provides for the establishment of a Commission which will provide grants to support the Universities.

Sir Leslie Martin has resigned from the Chair of Physics at the University of Melbourne to become Chairman of the new Commission.

The Navy Helps

THE Navy has agreed to allow the Training Frigates H.M.A.S. Gascoyne and Diamantina to make oceanographical observations whilst carrying out training of junior ratings.

It is hoped that both ships will be available for a total of 12 weeks each year for oceanographical cruises.

These expeditions in the Indian Ocean and the Coral and Tasman Seas will have to be fitted into the training and other naval tasks allotted to the vessels.

Staff of the Division of Fisheries and Oceanography will make observations from the ships.

APPOINTMENTS TO STAFF

AMONGST the eight recruits to the scientific staff this month are people from England, New Zealand, Holland and Poland.

TWO recruits to the Organization staff this month were formerly colleagues at the Royal North Shore Hospital, Sydney, where they worked in the laboratory of Dr. M. R. Lemberg, F.R.S.

Mr. B. J. Bloomfield, who has joined the Division of Food Preservation and Transport, worked under Dr. Lemberg from 1951 to 1957, during which time he studied for his B.Sc. as a part-time student in the University of New South Wales.

In 1957 he commenced work for his M.Sc. degree at Sydney University, and last year he held a C.S.I.R.O. studentship.

Mrs. J. Rigby also worked at the Royal North Shore Hospital from 1951 until 1956. From 1956-1958, she worked in the Department of Biochemistry of the University of Utah, under Professor Emil Smith.

She has now joined the staff of the Sheep Biology Laboratory, Prospect.

Mr. A. C. Cook comes to the Coal Research Section from England, where he was employed by the National Coal Board.

He was an Exhibitioner to King's College, Cambridge, and took his B.A. in 1957. He is at present en route to Australia.

Mr. W. J. Lanzing is also en route to Australia. He is coming from Holland with his wife and two young children to the Division of Fisheries and Oceanography.

Mr. Lanzing recently submitted a thesis for the Ph.D. degree to the University of Utrecht.

Mr. B. W. Norman, an agriculture graduate from the University of Sydney, has joined the Plant Nutrition Section of the Division of Plant Industry.

Since graduation, he has worked with the New South Wales Conservation Service.

Mr. W. A. Snowden, a Veterinary Officer employed by

the Victorian Department of Agriculture, has transferred to the C.S.I.R.O. Division of Animal Health and Production.

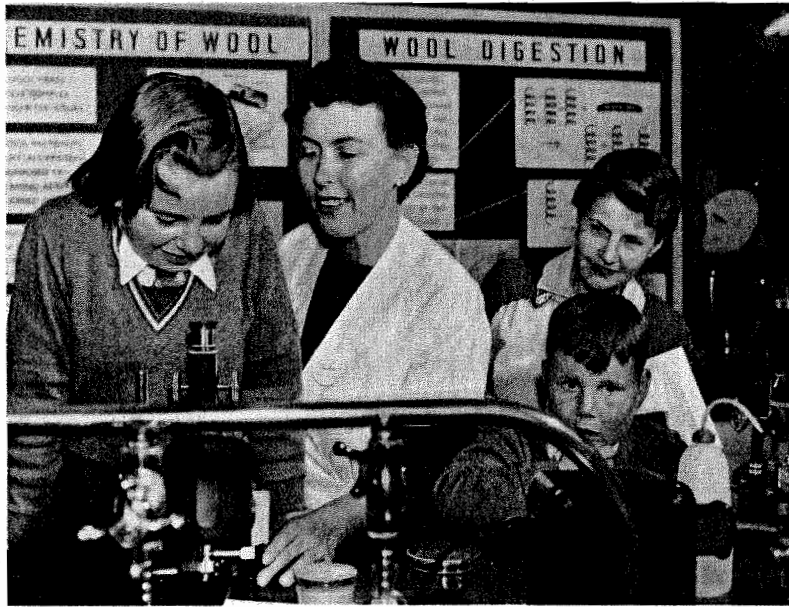
He will work with Dr. French in the newly inaugurated Virology Section at Parkville.

Mrs. W. Szulmayer (nee Wilmanska) has rejoined C.S.I.R.O. Before the war she was a student at Warsaw, and after the war she finished her course at Heidelberg.

From 1954-1957 she worked with the Division of Physics, but left some months before her son was born. Mrs. Szulmayer has now been appointed to the staff of the Division of Food Preservation and Transport.

Mr. A. D. Warth has been appointed to the Division of Food Preservation as a microbiological chemist. A New Zealander, he recently submitted his M.Sc. thesis to the University of Auckland.

10,000 VISITORS TO BLACK MOUNTAIN



SO MANY people came to the first Open Days at the Canberra Laboratories at Black Mountain on 6th and 7th May that the exhibition was put on again on Saturday, 9th May.

MEMBERS of Parliament turned up in such force that the Whips were forced to allot different times to Members to maintain a quorum in the House.

The Open Days coincided with the opening of the new headquarters building of the Australian Academy of Science on 7th May.

The public was invited to inspect the Laboratories on 6th May, school children on the morning of 7th May, and V.I.P.'s on the afternoon of 7th May.

Important visitors included Fellows of the Australian Academy of Science, members of the Diplomatic Corps, and

the Heads of Government Departments.

Among the 70 exhibits was the prototype of a phytotron cabinet described as a "Machine for making tailor-made climates".

The Wildlife display drew large crowds. Children stared, fascinated at hairless mice and rabbits.

Visitors were able to walk through a mock camp like ones which serve as bases for C.S.I.R.O. research teams on long and lonely survey trips.

In the canvas laboratory, visitors saw botanical specimens being pressed, soil samples for analysis, and bundles of aerial photographs.

Although under canvas, and walking on an earth floor, the teams have washing machines, medical supplies, two-way radio, and electric light.

Next month this equipment will leave Canberra for the outback, where some 40,000 sq. miles of country in the West Kimberleys will be surveyed.

The Plant Growth exhibit included a series of diagrams showing all stages in the development of the wheat plant. It excited comment for its imaginative display technique.

Technical Assistant, Mrs. O. Kuusik, helps Susan Ballard to study a specimen under a microscope at the Chemistry of Wool exhibit. Mrs. Ballard and son, Barry, look on.

From left: Mr. C. S. Christian (Chief, Division of Land Research and Regional Survey), Mr. R. G. Casey (Minister in Charge of C.S.I.R.O.), and Dr. F. W. G. White (Deputy Chairman) at the Regional Survey exhibit.

"Glass Houses" under Fire

CONTEMPORARY "glass houses" have serious disadvantages, Ian Langlands, Chief of the Division of Building Research, told builders in Canberra last month.

MR. LANGLANDS was speaking at a Better Building Seminar sponsored by the Australian Institute of Builders.

Windows have become larger and larger until often the whole wall is sheathed with glass, sometimes with unfortunate results, he said.

"Glass has many obvious qualities, but architects, in their desire to take advantage of these or to be in the fashion, have often gone too far.

"It is now being realized that the glass wall, unprotected from the sun, is not generally a satisfactory form of construction".

Mr. Langlands said it had been calculated that the capital cost of air-conditioning plant required to deal with heat passing through one square foot of ordinary glass facing

east or west and unprotected from the sun was £4 to £5.

Sky glare and direct sunlight are disturbing to the occupants, he added.

Special types of glass to cut down light and heat transmission are only expensive palliatives, he said.

"The answer is not the use of internal blinds and curtains, but of external sun-breaks.

"If properly designed these work well on north walls, but protection of east and west walls is difficult and expensive.

"A cheaper solution is to use smaller windows".

Mr. Langlands said waterproofing and cracking under temperature extremes are other hazards of glass walls.

These later problems may eventually be overcome by research.

Radiation Award

CABLED advice from New Zealand states that Dr. J. H. Piddington of the Division of Radiophysics has received the T. K. Sidey (Summertime) Award.

The award is an international prize for scientific research given for "the most valuable contribution to human knowledge of radiation and rays of every kind, particularly solar radiation".

It is made each year by the Royal Society of New Zealand. The award comprises a medal and £N.Z.100.

The award was given for Dr. Piddington's theoretical explanation of heating in the solar atmosphere.

DOCTORS NOW

THREE C.S.I.R.O. people have been awarded the degree of D.Sc. recently.

Mary Dawbarn and David Riceman from the Division of Biochemistry and General Nutrition received their degrees at the recent conferring ceremony at the University of Adelaide. Both are Adelaide graduates.

James Morrison of the Chemical Research Laboratories received his degree from the University of Glasgow. He already had the degrees of B.Sc. (Hons.) and Ph.D. of that University.

Bruce Chandler of the Division of Food Preservation and Transport has been awarded the Ph.D. degree of the University of Sydney.

Credit Society Wants—LENDERS AND BORROWERS

TWO co-operative credit societies operate in C.S.I.R.O., one in New South Wales and the other in Victoria. Activities of the Victorian Society are the subject of this article. The N.S.W. Society will be discussed in a later article.

THE C.S.I.R.O. Co-operative Credit Society in Victoria has now been running for nearly two years.

Already it has a membership of 275.

The Society has a paid up capital of £12,700, and has made loans to members totalling £22,450.

The Society is still anxious to enroll more members, and to lend more money.

To become a member it is necessary to subscribe at least £5, but money will be accepted on deposit from non-members.

Interest at the rate of 5% per annum is paid on any sums of money left in for a year or more.

If the money is withdrawn in less than a year, savings bank interest is paid.

Money has been lent to members for all sorts of different reasons.

In some cases, members have borrowed money to paint the house, buy a refrigerator or pay the grocer's bill.

One or two Research Officers have borrowed money to finance trips overseas.

At the time of the year when rates fall due, demand for funds is heavy.

The Society needs both lenders and borrowers.

There is no limit to the amount of money which may be subscribed for loan to the Society, but a member may not borrow more than £300 at the present time.

Funds are invariably available within 6 weeks from the date that an application is made for a loan.

In contrast to the N.S.W. Society where membership is restricted to people in New South Wales, the Victorian Society is able to accept interstate members and already has some from South Australia and Western Australia.

Wool Blankets Safe

WOOL blankets can now be sterilized by boiling without shrinking, deterioration, or discolouration.

THE new process which makes this possible was developed by the Wool Research Laboratories and the Royal Melbourne Hospital.

The Manager of the hospital (Mr. A. Morecom) told a press conference recently that because of the success in developing the new process, the hospital has decided to retain woollen blankets.

Otherwise it would have changed to terylene or cotton.

The experiments were initiated by Dr. D. C. Cowling, clinical pathologist.

Dr. Cowling had been worried over the danger that woollen blankets, which could only be laundered and not boiled, might be a source of cross-infection of patients.

He thought cotton or terylene blankets might be safer because they could be sterilized.

But the danger of fire is less in wool and terylene introduces a static electricity hazard in the operating theatre.

Studies have shown that woollen blankets in contrast to other blankets produce very

little airborne fluff, a serious source of cross-infection.

Mr. T. A. Pressley of the Wool Research Laboratories joined Dr. Cowling in his work.

A blanket treated by the new process has been laundered 225 times without harm.

Normally a blanket is discarded after 60 laundries when it is less than half size.

A sample blanket has been boiled 40 times so far without appreciable shrinkage or deterioration.

WASH-AND-WEAR WOOL

C.S.I.R.O. has recently completed practical tests on all-wool shirts treated by a wash-and-wear process developed by the Wool Research Laboratories, Mr. Casey told the House recently.

He was replying to a Parliamentary question asked by Mr. L. W. Hamilton, Member for Canning.

The results of these tests indicate that the process is a

very satisfactory one, and is suitable for commercial development, Mr. Casey said.

Details of the processing methods will shortly be released for use in Australian mills, he added.

Mr. Casey said that industry must decide how the process can best be commercialized, but C.S.I.R.O. hopes that wash-and-wear all-wool shirts and blouses will be available through retailers later this year.

FIVE MORE FELLOWS OF ACADEMY



Dr. K. L. SUTHERLAND



Dr. J. R. PRICE



Dr. W. N. CHRISTIANSEN



Mr. B. Y. MILLS



Dr. K. H. L. KEY

THE AUSTRALIAN ACADEMY OF SCIENCE at its meeting at Canberra this month elected six more Fellows, five of whom are from C.S.I.R.O.

They were Drs. J. R. Price and K. L. Sutherland of the Chemical Research Laboratories, Dr. W. N. Christiansen and Mr. B. Y. Mills of the Division of Radiophysics, and Dr. K. H. L. Key of the Division of Entomology.

This brings C.S.I.R.O.'s list of Fellows up to 22.

Dr. K. L. Sutherland, Chief of the Division of Physical Chemistry, has previously won a long list of distinctions for his work in physical chemistry.

He has won both the Rennie medal and the H. G. Smith Memorial medal of the Royal Australian Chemical Institute, and has also won both the Grimwade prize and the Syme prize of the University of Melbourne.

During the years 1947 and 1948 he worked at the Royal Institution in London on a Davy-Faraday Fellowship.

Dr. J. R. Price, an Adelaide graduate, is a Senior Principal Research Officer in the Organic Chemistry Section of the Chemical Research Laboratories.

He has, for some years, been in charge of the Biological Chemistry Group in the Section, which has had great success in its research on alkaloids from Australian plants.

Dr. Price is also an H. G. Smith Memorial medallist, and has been a Liversidge lecturer at A.N.Z.A.A.S.

Dr. Christiansen and Mr. Mills are two prominent radio astronomers in the Division of Radiophysics.

Each has his name perpetuated in the "Chris-cross" and the "Mills-cross" which are ingenious high-resolution radio telescopes.

Dr. Christiansen was responsible for the application of the

grating principle to radio astronomy.

Mr. Mills, who was awarded the Academy's Lyle medal for 1958, has done outstanding work on discrete-source radio astronomy.

Dr. Key is a graduate of the Universities of Cape Town and London and is recognized as a leader in ecological research.

His special field of study has been the locust and grasshopper families.

He is a member of the International Commission of Zoological Nomenclature.

Overseas Visits

Two of the three C.S.I.R.O. officers leaving Australia this month will visit Japan.

Dr. D. F. Martyn, Officer in Charge of the Upper Atmosphere Section, is at present in Japan. Among other things, he is interviewing some Japanese physicists who would like to work in Australia for a time.

Dr. Martyn will go to the United States to attend a symposium on "Fluid Mechanics and the Ionosphere" at Cornell University in July.

Mr. W. R. Blevin, of the Division of Physics, left last month on a round-the-world trip.

He will visit laboratories and attend symposia and conferences in the field of optics in Japan, India, Russia, Belgium, England, France, Switzerland, Germany, Sweden, Canada, and the U.S.A. He will be away for 5 months.

Dr. A. C. Hurley, of the Division of Chemical Physics, leaves Melbourne in mid-June for the U.S.A.

He has been invited to take part in a Conference on Molecular Quantum Mechanics to be held at the University of Colorado.

Dr. Hurley, who will only be away for a month, will also pay short visits to one or two laboratories in California.

WHEAT FUNDS

AT its meeting at the end of April, the Wheat Research Council voted £43,592 to C.S.I.R.O. as a grant for 1959-60.

£21,792 of this will go to the newly formed Wheat Research Unit in Sydney.

The Engineering Section will receive £10,000 for work on ploughing and measurement of moisture in silos.

£6,800 will be spent in erecting an airtight silo for studies in the Division of Entomology on the storage of wheat.

Work on pasture plant breeding in relation to pastures in ley rotations will receive £5,000 of the grant.

The Council decided to build up funds to allow for the variation in its income which will occur.

The average income is expected to be about £150,000 a year and a reserve of £100,000 is to be accumulated. Reserves will now stand at £75,000.

Because of this, little money is available for new projects.

However, £5,000 has been given to the University of Western Australia for extensions to the Institute of Agriculture and £4,000 to the University of Sydney for research on rust in wheat.

Man of Parts

A RECENT seminar at the University of Melbourne on mediaeval Russian history and literature has revealed unusual talents in one of our colleagues.

Dr. S. J. Paramonov, who recently retired from the staff of the Division of Entomology, was guest lecturer and discussion leader at the seminar. We find, too, that he is also a poet.

Dr. Paramonov has specialized in the taxonomy of Diptera (flies) and has accepted a grant to continue his studies in this field of entomology.

Dr. Harrison

HOWARD P. HARRISON, who spent three years studying C.S.I.R.O. as the subject of his thesis, has been admitted to the degree of Ph.D. of the Australian National University.

Blunt Needles Out

RED CROSS nurses competed for needles sharpened on N.S.L.'s machine during its testing period.

GEORGE BELL in the Division of Metrology developed the machine at the request of the N.S.W. Red Cross Blood Transfusion Service.

They wanted unskilled operators to sharpen 50 needles an hour.

The N.S.L. machine handles hypodermic and blood-taking needles at more than 100 per hour.

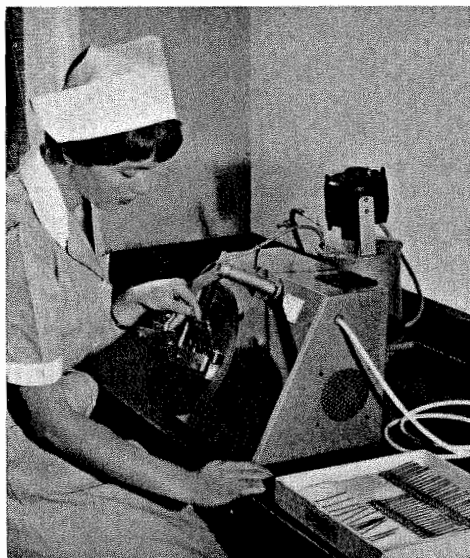
The needle tip rests against a grooved metal lap with abrasive embedded in its surface.

The lap rotates at about 50 r.p.m.

Several manufacturers are to make the machine under licence and the first commercial model has now been approved.

Blood donors are full of praise for the machine. "You just can't feel the needle," is the standard reaction now-a-days.

First commercial model of the N.S.L. needle sharpener being given its test run at the Red Cross Blood Transfusion Service, Sydney.



WHITE SHEEP OLIPHANT CARTOON



"You don't say! I'm a no-iron drip-dry myself!"

Courtesy: "The Advertiser", Adelaide.

AMERICAN PROFESSORS

TWO distinguished American scholars will shortly arrive in Australia to take up Fulbright scholarships.

Professor Victor K. Lamer of the Chemistry Department, University of Columbia, New York, will spend six months with the Division of Physical Chemistry.

He is interested in surface chemistry and is an authority on aerosols.

Professor Vernon Cheadle, Chairman of the Department of Botany in the University of California at Davis, will spend his sabbatical leave in the Division of Forest Products.

He will work with the Wood and Fibre Structure Section.

During his stay, Professor Cheadle will make several excursions to various parts of Australia to collect specimens.

Chairman Resigns A.N.Z.A.A.S. Presidency

UNDER strong pressure from his doctor, Sir Ian Clunies Ross has, with great reluctance, resigned from the position of President of the forthcoming meeting in Perth of the Australian and New Zealand Association for the Advancement of Science.

Printed by C.S.I.R.O., Melbourne.

C O R E S E A R C H

FOR CIRCULATION AMONG MEMBERS OF C.S.I.R.O. STAFF — NUMBER 4, MELBOURNE, JULY 1959

SIR IAN WIDELY MOURNED

SIR IAN CLUNIES ROSS, C.M.G., D.V.Sc., D.Sc., A.R.C.V.S., LL.D., F.A.A., Chairman of C.S.I.R.O., died shortly after 9 p.m. on 20th June in the Mercy Hospital, Melbourne.

HE entered hospital the week before with a coronary thrombosis and was critically ill for some days.

He suffered a slight cerebral haemorrhage last year and subsequently had a series of coronary attacks. A few weeks ago he showed every sign of making a complete recovery.

Sir Ian was one of Australia's very great men and he is mourned by people in all walks of life.

Nearly 1,000 people from many sections of the community attended a memorial service to Sir Ian in Scots Church, Melbourne, on 22nd June.

The Master of Ormond College, the Rev. Professor J. D. McCaughey, a personal friend, conducted the service.

Religious leaders and representatives of the Governor, the Commonwealth and State Governments, and the University attended.

Hundreds of C.S.I.R.O. staff members were in the congregation.

About 50 Asian and other students from Melbourne University's International House were present.

Tributes to his magnificent work and his devotion to the causes that he chose to serve have come from all parts of Australia.

His many public appearances as lecturer, orator and after-dinner speaker, coupled with his frequent broadcasts and telecasts, made him well known to, and popular with, a wide audience.

He had a great charm of manner and a genuine humility which won him a wealth of friends.

Tall and striking looking, with a ready smile that set people immediately at ease, he was a person not easily forgotten after even a casual meeting.

He had the power to delight listeners with his wit and his gifts as a raconteur have seldom been equalled.

Whatever the topic he had some detailed knowledge of it, gained from his omnivorous reading.

Science and the Community

Sir Ian was no ivory tower scientist. He had a burning conviction that science must be harnessed for the good of the community.

He lost no opportunity of bringing scientific discoveries to public notice and did everything possible to see that they were applied quickly.

He campaigned to make the sheep and wool industry see the need for taking positive action to meet the threat of competition from synthetic fibres.

Industry and the Government responded by making considerable sums available for research and the multiplicity of C.S.I.R.O. discoveries in this field stands as the justification for his campaign.

He induced others to share his enthusiasm for cooperation between science and industry and has been largely responsible for the high regard in which C.S.I.R.O. and its work are held throughout Australia.

The support given to C.S.I.R.O. by the Government during his term of office as Chairman reflects the reliance placed on his recommendations by the Prime Minister and the members of the Cabinet.

Wide Interests

Sir Ian was intensely interested in education and was largely responsible for the setting up of the Murray Committee on the Universities. He is spoken of as the principal architect of the Committee's outstanding report.

He has been outspoken on the need for retaining breadth and liberalism in education and has stressed repeatedly the dangers inherent in the specialization increasingly necessary in modern scientific and technological careers.

He took a keen interest in foreign affairs and international relations, particularly between Australia and its northern neighbours.

As Chairman of the International House Council, University of Melbourne, he devoted great effort to bringing this project to fruition.

He was an ideal chairman, tolerant and encouraging but always incisive, in keeping discussion to the point. His services were in great demand for meetings.

He devoted himself unsparingly to his work for science and rarely refused any of the multitude of requests he received for speaking at functions of all kinds.

He gave himself little time for relaxation and claimed as his hobbies only a love of animals and reading.

His colleagues in C.S.I.R.O. and all members of the staff held him in affection and respect.

He will be missed by us all for his dynamic leadership and for his intensely human qualities — his interest in others, his humanity and his joy in living.



Curriculum Vitae

SIR IAN was born on 22nd February, 1899, at Bathurst, the son of the late W. J. Clunies Ross, an Englishman who settled in New South Wales. He was a grand nephew of the Clunies Ross who took the Cocos Islands during the last century.

He was married to Janet Leslie Carter in 1927 and had three sons and one daughter — Anthony (an Arts graduate now doing post-graduate work at Melbourne University and a tutor at Trinity College), Adrian (Army captain and graduate from Duntroon Military College), David (Melbourne University graduate now in business), and Judith (at school).

Educated at Newington College, Sydney, he graduated Bachelor of Veterinary Science with honours from Sydney University in 1921.

The following year he was awarded the Walter and Eliza Hall Veterinary Research Fellowship under which he did post-graduate studies at the London School of Tropical Medicine and at the Molteno Institute (University of Cambridge).

He was appointed lecturer in veterinary parasitology at Sydney University in 1925, and in 1926 C.S.I.R. Parasitologist.

He was awarded the degree of Doctor of Veterinary Science of Sydney University in 1928 and during the next two years undertook parasitological studies at the Institute of Infectious Diseases of Tokyo Imperial University.

He always retained his interest in Japan and spoke Japanese.

In 1931 he was appointed Officer in Charge of the C.S.I.R. McMaster Animal Health Laboratory, Sydney.

He undertook a sheep and wool survey in north-east Asia for the Commonwealth Government in 1935.

In 1937 he was appointed Australian representative and later Chairman of the International Wool Secretariat in London. He travelled extensively mainly in U.S.A., France, Belgium, Germany and Denmark.

He was appointed Professor of Veterinary Science at Sydney University in 1940 and in 1942 was seconded to the Commonwealth Directorate of Manpower as Director of Scientific Personnel and to the Department of War Organization of Industry as adviser on the pastoral industry.

He returned to duty at the University in 1945 and the following year was appointed as Executive Officer to C.S.I.R.

He was appointed Chairman of C.S.I.R.O. in 1949 when the former C.S.I.R. was reconstituted.

Through the years Sir Ian held office in a wide variety of organizations.

They include: — Member, Australian delegation, League of Nations Assembly; Australian member of council, International Chamber of

Commerce; Chairman, Commonwealth Council, Australian Institute of International Affairs; Fellow of the Senate, Sydney University; member of Council, Scotch College, Melbourne; member of Council, Melbourne University and Deputy Chancellor; and member of Council, Australian National University.

Sir Ian published more than 60 research papers, mainly on parasitology. He was co-author of a book "The Internal Parasitic Diseases of Sheep".

In more recent years he delivered many notable orations.

HONOURS

In 1953 he was made an Honorary Associate of the U.K. Royal College of Veterinary Surgeons.

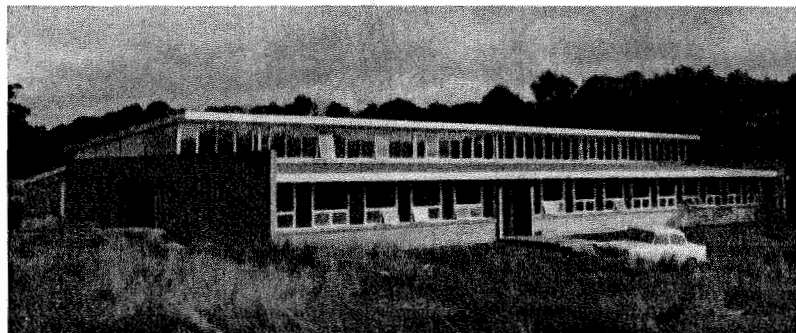
In 1954 he was made a Companion of the Order of St. Michael and St. George (C.M.G.) and a Knight Bachelor. He also became a foundation Fellow of the Australian Academy of Science.

In 1955 he was given the honorary degree of Doctor of Laws by Melbourne University and in 1956 the honorary degree of Doctor of Science by the Universities of New England and Adelaide.

The Royal Agricultural Society of England awarded him its Gold Medal and the Royal Society of New South Wales awarded him the James Cook Medal.

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SOIL MECHANICS BUILDING



A NEW Soil Mechanics Laboratory has just been completed at Syndal, an outer suburb of Melbourne.

The laboratory will house the C.S.I.R.O. Soil Mechanics Section and a small group of workers belonging to the Civil Engineering Department of the University of Melbourne.

It has been built on a site of about 2½ acres made available on long lease by the Victorian Country Roads Board.

The new building cost about £25,000, most of which is being found by C.S.I.R.O.

A modern skillion-roofed structure, it was designed in collaboration with the firm of J. S. Henzell and Associates.

It incorporates a number of interesting design features including movable partitions and floor heating.

The Soil Mechanics Section was, until recently, a part of the Division of Soils.

For some years it was given accommodation at the University of Melbourne and more recently it has used temporary premises in Box Hill, a Melbourne suburb, as office space.

Over a year ago the Chief of the Division of Soils recommended that the Section should become autonomous, as it was removed from the rest

New headquarters for the Soil Mechanics Section have now been completed at Syndal, Victoria. The laboratory will be shared with the University of Melbourne.

of the Division, both geographically and scientifically.

The group became an independent section in July last year, and Dr. G. D. Aitchison became the first Officer-in-Charge.

OVERSEAS VISITS

THREE C.S.I.R.O. officers are going overseas this month at the specific invitations of various scientific bodies.

Mr. J. P. Wild of the Division of Radiophysics will leave this month for Rome.

He will take part in a course on solar radioastronomy at the invitation of the Italian Physical Society. The course will be held at Varenna, on the shores of Lake Como.

Mr. Wild will visit radioastronomy centres in France and England, and will return to Australia via the U.S.A. in September.

Mr. D. E. Weiss of the Division of Physical Chemistry left in June for the United States.

He delivered a paper to the Carbon Conference at Buffalo, and will discuss with dyestuff chemists, problems associated with the development of novel methods for desalinating water.

Mr. Weiss will spend a couple of months in England and Europe before returning home.

Mr. R. F. Turnbull of the Division of Forest Products

is spending a month in Ceylon under the auspices of the Colombo Plan.

He will recommend to the Australian Government what equipment should be given to the Ceylon timber industry under the Plan.

Dr. J. S. Shannon of the Coal Research Section sails for the United Kingdom this month.

Dr. Shannon will study the application of mass spectrometry to coal at the University of Glasgow. He will be away for about a year, during which time he will pay a short visit to Germany.

Mr. G. Loftus Hills, Officer-in-Charge of the Dairy Research Section, has left on a three months' visit to Europe and the United States of America.

The principal purpose of his trip is to attend the Fifteenth International Dairy Congress in London.

Pakistani Irrigation Head

DIRECTOR of Land Reclamation for West Pakistan, Dr. A. G. Ashgar, has just completed a short visit to Australia.

DR. ASHGAR was specially invited here by the Australian Government to see our work in irrigation and drainage.

He saw C.S.I.R.O. work in Canberra, Griffith, Deniliquin, Merbein, and Melbourne.

He also saw some of the work of the State water authorities, Departments of Agriculture, and the Universities.

Dr. Ashgar was particularly interested to see our training facilities. Pakistan may wish to train people here for irrigation research.

Apart from his land reclamation job, Dr. Ashgar is an Honorary General Secretary of the Pakistan Association for the Advancement of Science,



Dr. A. G. ASHGAR

and a member of the Senate of the University of the Punjab.

Minister warns on Wool

AUSTRALIA cannot be complacent over the position of wool in the world market, Mr. R. G. Casey (Minister in Charge of C.S.I.R.O.) said in Sydney recently.

Mr. Casey was opening a C.S.I.R.O. exhibition as part of a wool and sheep show at David Jones' store in Sydney.

"We've got to 'sell' wool — not by advertising only, but by making woollen goods more attractive than competing goods to the millions of individual buyers", Mr. Casey said.

"Apart from the inherent qualities of wool, we've got

to build other qualities into woollen goods to give them additional attractive and useful characteristics — and we have got to make customers aware of these new merits."

Mr. Casey praised C.S.I.R.O. research on wool which had already produced processes of great value.

From left: Dr. M. Lipson (Chief, Division of Textile Industry), Mr. R. G. Casey (Minister in Charge of C.S.I.R.O.), Mr. V. D. Burgmann (Chief, Division of Textile Physics), and Lt.-Gen. Sir Leslie Morshead (a director of David Jones Ltd.). Dr. Lipson is explaining details of an exhibit showing the constituents of fleece.



Pirate Ancestors

THE Sydney Diamond Jubilee Sheep Show (and a woman reporter for a Sydney newspaper) brought home to us that C.S.I.R.O. employs the direct descendant of a Dutch pirate who preyed on French and Spanish ships in the 16th century.

Dr. Cornelius Wouters, who is the member of our Translation Section stationed at N.S.W., has a colourful hobby which brought him into the news last month.

He is an authority on national dress and folk songs.

He owns some splendid Dutch costumes which were on view at the Sydney Show-

ground as part of the All Nations Wool Exhibition at the Sheep Show.

Dr. Wouters studied at a number of Universities in Europe and reads 14 European languages, Latin, and Ancient Greek.

He is an executive officer of the Good Neighbour Council.

CLICKED

MR. W. A. JACKSON of the Division of Building Research has been elected an Associate of the Royal Photographic Society.



"Hey! That's cheating, you're praying."

Courtesy: "The Sydney Morning Herald"

DIVISION OF TROPICAL PASTURES

Cunningham Laboratory, headquarters of new Division of Tropical Pastures, St. Lucia.

Queensland now has its first C.S.I.R.O. Division. The Brisbane group of the Division of Plant Industry has now become the Division of Tropical Pastures.

DR. J. GRIFFITHS DAVIES, Associate Chief of the Division of Plant Industry and Officer in Charge of the Plant and Soils Laboratory, Brisbane, is the first Chief of the new Division.

The new Division will continue to work in association with its parent Division of Plant Industry.

Establishment of the Division of Tropical Pastures reflects the Executive's appreciation of the importance of developing pastures in the summer rainfall areas of Australia, and of the scientific standing of the Brisbane group.

The new Division will have its headquarters in the Cunningham Laboratory which has just been erected adjacent to the University of Queensland at St. Lucia.



Dr. J. G. DAVIES

The staff have now moved from their cramped quarters in the old University buildings in George Street, Brisbane.

The new address is: C.S.I.R.O. Division of Tropical Pastures, Cunningham Laboratory, Mill Road, St. Lucia, S.W.6, Queensland. Telephone is Brisbane 73121 and telegraphic address is Coreseach, Brisbane.

The Division of Tropical Pastures has already made considerable progress in evolving improved pastures for the Queensland sub-tropics.

A considerable number of suitable grasses are available and many others are now being experimented with.

In practically all areas the growth of pastures in Queensland is limited by the shortage of available nitrogen.

At present the only economic way of supplying enough nitrogen is to include legumes (plants that can use nitrogen from the air) in the pasture.

The Division now has many species of legumes under critical test. Some of these are extremely promising but most need to be adapted to Queensland conditions. All of them are to some degree frost susceptible, others are toxic to stock.

The Division is modifying them and expects to produce varieties which will provide the required combination of desirable characteristics.

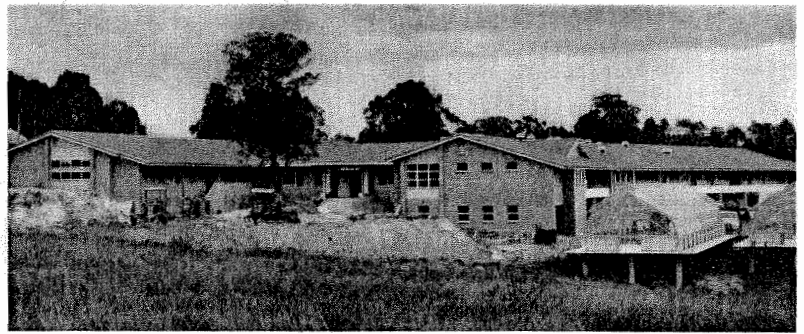
Dr. Davies talks confidently of a four-fold increase in the carrying capacity of pastures in many parts of Queensland.

Dr. Davies holds the Ph.D. degree of the University of Wales.

He is recognized as one of the world's authorities on grassland research. He has been responsible for a large part of C.S.I.R.O.'s research on pastures.

In 1957 the Australian Institute of Agricultural Science awarded him its Medal in recognition of his outstanding contributions to scientific agriculture. He is one of the few Fellows of the Institute.

The University of New England awarded him the Honorary Degree of Doctor of Science in 1958.



COAL MAN PLAYS RUGBY FOR AUSTRALIA

PETER JOHNSON, who is a Trainee Administrative Officer with the Coal Research Section, is playing rugby for Australia against the visiting British Lions team.

He is also in the New South Wales team which is playing the British team.

Since leaving Sydney High School in 1954, Peter has played Rugby Union with Randwick Football Club as a hooker or rake.

He started playing in the Reserve Grade but even in his first year he was used as a First Grade hooker when the regular man was injured or not available.

For the past two seasons Peter has been the regular First Grade hooker.

In 1958 Peter was chosen to represent New South Wales against Victoria. The Light Blues ran out winners, thrashing the Dark Blues 40-14.

Following his good work in the scrums for New South Wales, he was chosen as a member of the Wallaby team which toured New Zealand for seven weeks at the end of the 1958 season.

Although he did not play in any of the three Tests, Peter gained valuable experience in games against some of the Provinces.

Peter who is 22, is 5ft. 10 in. high and weighs 13 stone. He is also a member of the Bronte water polo team which came into the finals of the third grade.



Mr. P. JOHNSON

Our Friends in Honours List

THREE people closely associated with C.S.I.R.O. appeared in the Queen's Birthday honours list.

Among the new Knights is Sir Walter Bassett who has become a Knight Commander of the Most Excellent Order of the British Empire.

Sir Walter is a prominent Melbourne consulting engineer. As a member of the Radio Astronomy Trust he has helped C.S.I.R.O. with the giant radio telescope project.

He has also been generous with his advice on many other matters.

Mr. W. W. Pettingell, a

member of the Advisory Council becomes an Officer of the Most Excellent Order of the British Empire.

Mr. Pettingell is General Manager of the Australian Gas Light Company Limited, Sydney.

Professor J. P. Baxter, a member of the N.S.W. State Committee and a former member of the Advisory Council, becomes a Companion of the Most Distinguished Order of St. Michael and St. George.

Professor Baxter is Chairman of the Australian Atomic Energy Commission and Vice-Chancellor of the University of New South Wales.

Another Rockefeller Grant

THE Rockefeller Foundation has given \$30,000 for special equipment for the newly-formed C.S.I.R.O. Division of Tropical Pastures.

THE grant will be used to purchase a mass spectrometer and equipment for work with radioactive isotopes.

These will be used to expand the Division's work on nitrogen and phosphorus which are the most important deficiencies in Queensland soils.

This is the third large grant that C.S.I.R.O. has received from the Rockefeller Foundation in recent years.

A month ago, the Rockefeller Foundation gave \$100,000 for special equipment for the

C.S.I.R.O. Divisions of Plant Industry and of Entomology at Canberra.

The Foundation also provided \$250,000 towards the cost of the giant radio telescope which will soon be constructed at Parkes, N.S.W., for the Division of Radiophysics.

N.Z. WOOL MAN

MR. F. R. CALLAGHAN, Scientific Adviser to the New Zealand Wool Board, arrived in Australia in mid-June on a short visit.

Whilst in Victoria, he saw laboratories of the Divisions of Protein Chemistry, Textile Industry, and Animal Health and Production.

He also visited the Australian Wool Testing Authority, the Australian Wool Bureau, the Department of Agriculture, and the Gordon Institute of Technology.

Mr. Callaghan is at present in Sydney where he is seeing C.S.I.R.O. work and visiting the University of New South Wales.

Mr. Callaghan was Secretary of the New Zealand Department of Scientific and Industrial Research until 1953.

C.O.L. RISES

THE Commonwealth Conciliation and Arbitration Commission handed down its judgment in the Basic Wage case on 5th June.

The Commission again declined to restore quarterly cost-of-living adjustments.

By a majority decision it increased the Federal basic wage by 15/-.

This is the second biggest basic wage increase granted by the Court. The biggest was £1 in 1950.

The increase brings the six capital cities' weighted average to £13/16/-.

The Commission's decision does not apply directly to C.S.I.R.O., but the Executive has made a determination giving similar increases to C.S.I.R.O. staff.

C.O.L. increases payable from June are:—

	Male	Female
Adults	£39	£29
At 20	£35	£28
At 19	£29	£25
At 18	£23	£21
Under 18	£19	£19

These increases bring the allowances to be added to nominal annual salaries to:—

	Male	Female
Adults	£102	£76
At 20	£92	£73
At 19	£76	£66
At 18	£61	£56
Under 18	£51	£51

The way in which the new rates apply is set out in Head Office Circular No. 59/32.

SI-RO-SET MAN GETS M.B.E.

DR. A. J. FARNWORTH is now a Member of the Most Excellent Order of the British Empire.

THE Award is included in the Queen's Birthday honours list.

Arthur Farnworth is the inventor of the SI-RO-SET process for putting permanent creases in woollen garments.



Dr. A. J. FARNWORTH

The process is now being widely used in many countries.

Dr. Farnworth is a member of the research staff of the Division of Textile Industry of the Wool Research Laboratories, Geelong.

He graduated as B.Sc. from the University of Melbourne

in 1945 and was awarded the M.Sc. degree the following year.

He studied at the University of Leeds for two years on an I.C.I. Fellowship and received the Ph.D. degree for his work on the reactivity of keratin molecules.

After a period as Senior Lecturer in textile chemistry at the Textile College of the Gordon Institute of Technology, Geelong, he took up his present position with C.S.I.R.O.

Chiefs Clear Papers

THE EXECUTIVE has delegated to Chiefs and Officers in Charge the power to approve scientific papers for publication.

This is one outcome of the work of a committee appointed to suggest ways of decentralizing administrative decisions.

The delegation is restricted to scientific papers. Statements involving policy must still be cleared by the Executive.

Clerks' Exam

UNDER an arrangement recently made with the Public Service Board, people not having a leaving certificate will be allowed to sit for special examinations qualifying them to become clerks.

Clerical assistants in the Organization have not been eligible for appointment as clerks unless they held the school leaving certificate.

Applications to sit for these exams must be lodged by 22nd July. Full particulars are set out in a recent Head Office circular number 59/29.

APPOINTMENTS TO STAFF

NINE recruits to C.S.I.R.O.'s scientific staff this month include two Englishmen, two New Zealanders and three Australians. Two women have joined us, one from Russia, the other from the United States.

Mr. S. J. Attwood is an Englishman who has been in Australia since 1950. He has been appointed to design experimental equipment at the Chemical Research Laboratories.

Mr. Attwood served in the R.A.F. from 1944-1949.

Mr. P. Broue, a Sydney graduate in agriculture, has been appointed to the Division of Plant Industry as an agronomist.

For the last three years he has been employed by the Department of Agriculture and stationed at Berry, N.S.W.

Dr. Mary Howell is the wife of an American Fulbright fellow who is studying at the Australian National University.

She recently took her Ph.D. degree at the Massachusetts Institute of Technology. She will work with Dr. Falk in the Division of Plant Industry for the next six months.

Mrs. Esther Kalecki is a graduate in engineering from Moscow. Since the war, she

has married a Pole, lectured at the Moscow Technological Institute, had two children, moved to Poland, and emigrated to Australia.

She will undertake research in air conditioning and refrigeration in the Engineering Section.

Dr. R. P. Newbold has been appointed to undertake fundamental studies of the biochemistry of muscle in the Division of Food Preservation and Transport.

He is a New Zealander, and took his Ph.D. at the University of California. More recently, he held a Canadian N.R.C. post-doctoral fellowship.

Mr. J. P. Penny has joined the Division of Mathematical Statistics to assist with the application of digital computers to the analysis of experimental results.

He has had previous experience with computers at the Weapons Research Establishment at Salisbury, S.A.

Dr. A. F. Reid, a New Zealander, has joined the staff of the Division of Mineral Chemistry, where he will work on aspects of the chemistry and metallurgy of thorium and beryllium.

He recently graduated Ph.D. from the Australian National University, Canberra.

Mr. M. G. Ridpath will sail from England this week to join the Wildlife Survey Section. He will break his journey at Perth to spend a few weeks in Western Australia.

Mr. Ridpath will be stationed in Hobart. He will investigate the biology of the Tasmanian native hen.

Dr. D. J. Swaine is an Australian who has spent the last seven years at the Macaulay Institute for Soil Research in Scotland. During his absence, he has acquired a wife, a child, and a Ph.D. degree.

He will sail from England on the same ship as Mr. Ridpath to join the Coal Research Section.

Wood Anatomist Retires

DR. MARGARET CHATTAWAY, a senior member of the research staff of the Division of Forest Products, retires this month.

DR. CHATTAWAY has worked in the Section of Wood and Fibre Structure, mostly on eucalypts.

She has studied, among other problems, their bark anatomy and its relation to wood anatomy, their adaptations to growth under difficult conditions (such as the development of ligno tubers in some species), and the mechanism of heartwood formation.



Dr. M. M. CHATTAWAY

Dr. Chattaway joined the Division with a long experience of wood anatomy received under such authorities as Dr. L. Chalk of the Imperial Forestry Institute at Oxford, and the late Prof. S. J. Record of the Yale School of Forestry.

During the second world war she served as a staff driver in the A.T.S.

Through the Victorian Women Graduates Association, of which she is a Committee member, and the British Federation of University Women, Dr. Chattaway has been a good friend to many women graduates from overseas and has boosted Australia on many occasions.

Until this year she has been on the Executive Committee of the Soroptimists Club of Melbourne and has held office as Vice-President. She was also appointed representative of a sub-committee to work in conjunction with the Good Neighbour Council to "Bring out a Briton".

Dr. Chattaway's other interests have included her active association with the Victorian Field Naturalists Club, having served on the Council for some years and acted as Vice-President and President during her earlier association with the club.

She is also a member of the Royal Australian Ornithological Union.

Her colleagues and friends wish her many years enjoyment of these interests and a happy retirement at her "bush" property, Koombala, at Olinda in Victoria.

Wild Life in the Editorial Section



A RECENT paper in "C.S.I.R.O. WILDLIFE RESEARCH" revealed that the Straw-necked Ibis devours a wide range of insects. Its editor suggested the following summary:—

*When little bugs crawl past the ibis,
He does not ask them what their tribe is,
All tiny creatures seem like lollies
to Threskiornis spinicollis.*

Sixty Films Now

THE achievements of the C.S.I.R.O. Film Unit in its 13 years of operation have been reviewed in a recent report by the Films Officer, Mr. S. T. Evans.

THE Unit's first production was a two-hour film on the "Research Facilities of C.S.I.R." which was produced for Sir David Rivett to show at the British Commonwealth Scientific Congress held in London in 1946.

Since then the Unit has produced about sixty films. Most of these are educational films, but a few have been scientific record films not intended for public showing.

Nearly 600 copies of C.S.I.R.O. films have been distributed in Australia and overseas.

The Unit has greatly improved its techniques over the years and has considerably improved its facilities. Last year a new animation camera was purchased for a sum exceeding £2,000.

Films have been sold to the British Broadcasting Corporation and the Columbia Broadcasting System in America, and have been shown at the Edinburgh Film Festival, and the annual congresses of the International Science Film Association.

The Unit has, at the present time, 11 more films in production.

Mr. Evans believes that the proper use of film techniques in the realm of scientific recording is being very much overlooked by scientists in C.S.I.R.O., and could be used effectively in many fields of scientific research.

He has sent copies of an interesting booklet entitled "The Scientific Film in Germany" to all Divisions and Sections.

This publication beautifully illustrates some of the ways in which cinematography can be used as an aid to research.

Weather Man For Antarctic

MR. J. E. HUMBLE, who joined the Division of Meteorological Physics last year, has resigned to take a position with the A.N.A.R.E.

After initial training at the University of Tasmania, he will spend a year at Australia's Antarctic base at Mawson.

He will be responsible for cosmic ray work at the base.

Post in America

DR. W. O. WILLIAMSON has resigned from the Ceramics Research Section of the Chemical Research Laboratories.

During his 12 years stay in Australia, he has done much to strengthen the scientific and technical basis of the Australian ceramics industry.

Dr. Williamson, who received a London D.Sc. degree last year, has been appointed Associate Professor of Ceramic Technology in the College of Mineral Industries at Pennsylvania State University, U.S.A.

MICRO-JOURNAL

DURING the next three years, the American Institute of Biological Sciences will publish a scientific journal exclusively in "microform".

The journal chosen for the experiment is "Wildlife Disease", the official journal of the Wildlife Disease Association.

It will be published quarterly on 5 inch by 3 inch micro-cards.

Each card will carry a separate article of anything up to 47 pages printed in micro-text, with the author and title of the article and the issue number shown in full-size type for identification.

BIOCHEMICAL APPOINTMENT

DR. HUGH McKENZIE has resigned from the staff of the Division of Food Preservation and Transport.

Dr. McKenzie, who was in charge of physico-chemical investigations in the Division, had been with C.S.I.R.O. for 15 years.

He has been invited by Dr. A. G. Ogston, F.R.S., to assist in the setting up of a Department of Physical Biochemistry at the Australian National University in Canberra.

Dr. McKenzie will have the status of Senior Fellow in the Department.

RESISTANCE TO INSECTICIDES

A SEMINAR on resistance of insects to insecticides was held at the Division of Entomology on 25th and 26th June during the visit of Dr. A. W. A. Brown, Professor and Head of the Department of Zoology, University of Western Ontario, Canada.

Professor Brown's visit to Australia marks the completion of a tour of the South-East Asian and Western Pacific regions which he is undertaking as a World Health Organization consultant on insect resistance to insecticides.

He is the foremost authority on this subject today, having just recently completed a two-year appointment with W.H.O. in Geneva.

He organized the collection, integration and dissemination of information on the resistance problem on a world basis, and compiled a number of reviews which culminated in a comprehensive monograph.

Dr. Brown is widely known as author of the book "Insect Control by Chemicals".

On the first day of the seminar, attendance was confined to scientific staff of research institutions.

The second day's proceedings were open to representatives from agricultural chemical firms.

Japanese Scientist Going Home

DR. H. HARADA of the Government Forest Experiment Station in Tokyo is returning home this month.

He has spent six months in the Division of Forest Products working on the fine structure of plant cell walls.



Dr. H. HARADA

He worked with Dr. A. B. Wardrop in the Section of Wood and Fibre Structure.

Dr. Harada is well known for his electron microscope studies of wood fibres particularly those using carbon replica techniques.

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C O R E S E A R C H

FOR CIRCULATION AMONG MEMBERS OF C.S.I.R.O. STAFF — NUMBER 5, MELBOURNE, AUGUST 1959

Dr. White Appointed Chairman

FREDERICK WILLIAM GEORGE WHITE, C.B.E., M.Sc., Ph.D., has been appointed Chairman of C.S.I.R.O. by the Governor-General. He has been a member of the Executive since C.S.I.R.O. was first constituted in 1949, and has held the office of Deputy Chairman since 1957.

His special interests have been in the physical sciences, in wool textiles research, and in the financing and organization of research generally.

He has made a number of trips abroad since the War to maintain close contact with trends in research organization in other countries. He has been particularly interested in the financing of research by industry through trade research associations.

Dr. White was born on May 16th, 1905 in New Zealand, and was educated at the Victoria University College, Wellington. He graduated B.Sc. in 1927, and M.Sc. (with first class honours) in 1928.

In 1929 he won a post-graduate scholarship which took him to St. John's College at Cambridge. He worked in the Cavendish Laboratory under the late Lord Rutherford, and was awarded his doctorate in 1932.

From Cambridge, Dr. White went to Kings College, London, where he served as a lecturer in physics in Sir Edward Appleton's Department. During this period he carried on research in various aspects of radio propagation, and published a text book on Electromagnetic Waves.

THIS MONTH

Executive meets in Melbourne on 12th August.

National F. A. O. Committee meets in Canberra on 11th August.

Conference on Solid State Physics in Melbourne on 17th and 22nd August.

A.N.Z.A.A.S. meets in Perth on 24th to 28th August.

More Money for Wool Research

Surplus monies from wartime wool disposals are to be used for wool research.

Australia's share of Joint Organization profits amounted to about £93 million.

Most of the profits have been distributed to the growers who participated in the scheme. £2,400,000 of undistributed profits are to be put into the Wool Research Trust Fund.

C.S.I.R.O. derives £1,000,000 per annum of its income from this fund.

The Chairman of the Wool Research Committee (Mr. Strutt) said that the money would enable the research programme to be stepped up. Plans for use of the extra money would be announced shortly.

The extra money will enable an increase in research without drawing on capital for at least 12 months.

C.S.I.R.O. is represented on the Wool Research Committee by Dr. F. W. G. White.

In 1937 he was appointed Professor of Physics at Canterbury University College in New Zealand.

In New Zealand he took a leading part in the establishment of the Research Laboratory of the British Empire Cancer Campaign Society.

In 1941 Dr. White was given leave by his University to assist C.S.I.R. in the organization of its Radiophysics Laboratory in Sydney, and in 1942 he was appointed Chief of the Division of Radiophysics.

In 1945 Dr. White resigned his professorship and joined the Head Office staff of C.S.I.R. as Assistant Executive Officer. He was appointed a member of the Executive Committee of the Council in 1946.

In 1955 Dr. White spent six weeks in Egypt on a U.N.E.S.C.O. project. His task was to advise the newly created National Research Council on the organization and develop-

ment of its research programme.

Dr. White is a Fellow of the Institute of Physics, and was created a Commander of the Most Excellent Order of the British Empire in 1954.

In 1957 he was elected President of Section A of the Australian and New Zealand Association for the Advancement of Science. He has been a member of the Scientific Advisory Committee of the Australian Atomic Energy Commission since 1953.

Dr. White lives at Brighton Beach, a Melbourne bay-side suburb, with his wife and two children, both of whom are under-graduates at the University of Melbourne.

He has a New Zealander's love for the mountains, and likes to spend his holidays fishing the trout streams. He has been an active member of the C.S.I.R. Ski Club in Victoria.



RADIO TELESCOPE CONTRACT LET

THE CONTRACT for the giant radio telescope for the Division of Radiophysics has been placed with a German firm.

THE German company, Maschinenfabrik Augsburg-Nürnberg A.G. (or M.A.N. for short), has already carried out many large contracts in Australia including bridge work, hydraulic gear for dams, and heavy machinery.

Tenders for the construction and erection of the radio telescope were called throughout the world and tenders were sub-

mitted by British, American, and German firms.

The lowest and most satisfactory tender was from M.A.N.

The radio telescope is to be erected at Parkes, N.S.W., about 200 miles west of Sydney.

C.S.I.R.O. has acquired an area of about 400 acres on the floor of a valley about 10 miles north of Parkes township.

It is in attractive park lands surrounded by low foothills and eminently suited to a wide variety of activities in radio astronomy.

The electrical noise level is exceptionally low and steps have been taken to protect the area from possible encroachment by sources of electrical noise in the future.

Work to prepare the site is already in hand, and an Australian subcontractor will erect the supporting tower early next year.

M.A.N. will start to erect the radio telescope there about the middle of 1960 and the whole project is to be completed early in 1961.

Total cost of the giant radio telescope project will not be far short of £750,000.

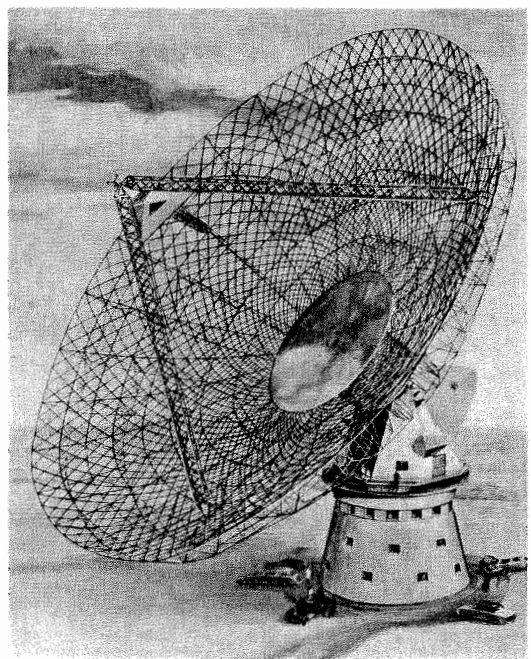
Dr. E. G. Bowen, Chief of the Division of Radiophysics, has played a leading part in getting the design of the radio telescope finalized and in arranging for the calling of tenders.

He has just returned from discussions in the U.K., the U.S.A., and the Continent with the designers and the firms that submitted tenders.

The most spectacular feature of the radio telescope is a huge, parabolic reflector, 210 feet in diameter.

The surface accuracy of this dish must be good to $\pm \frac{1}{4}$ inch and the reflector must be capable of being steered in any direction in the sky with an accuracy of ± 1 minute of

Artist's impression of the giant radio telescope to be built at Parkes, N.S.W.



Gifts Help

C.S.I.R.O. has been helped in obtaining funds for the project by a Radio Astronomy Trust under the Chairmanship of Mr. R. G. Casey and having as members Sir Edward Lefroy, Sir Robert Knox, Sir Daniel McVey, Sir Walter Basset, and Mr. A. Thyne Reid.

Generous gifts from the U.S.A. (from the Rockefeller Foundation and the Carnegie Corporation) and from industry and from private donors in Australia, have provided half of the money.

The Commonwealth Government is matching these donations to provide the total of about £750,000 needed.

arc (i.e., 1/30th of the diameter of the full moon).

Heart of the design is a model equatorial-mount telescope (with provision for optical sighting) driven in the conventional way and mounted close to the centre of rotation of the radio telescope.

Servo mechanisms make the giant radio telescope follow this tiny master. The giant radio telescope has an alt-azimuth mounting.

The big dish will be slightly smaller than that of the only other giant radio telescope in existence (at Jodrell Bank, near Manchester, England).

However, the surface accuracy of the Australian radio telescope and the precision with which it can be pointed and driven will all be substantially higher.

These are the most important features in a radio telescope and the Australian instrument is likely in practice to be the most advanced and the most powerful of its kind in the world.

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NEW APPOINTEES

THE DIVISION of Physics has made three appointments to its scientific staff this month.

Mr. S. A. Creef will take general responsibility for supervision of engineering work in the Division. Mr. Creef was previously Chief Drafting Officer at the Australian Atomic Energy Commission's establishment at Lucas Heights.

Mr. A. H. Flint is an Englishman who took his degree in physics at Oxford. Since graduating in 1953, he has taken jobs in the United Kingdom, Canada, and New Zealand. He has now joined the Heat Section of the Division of Physics.

Mr. J. E. Shaw, who has also joined the Division of Physics, was a school teacher with the N.S.W. Department of Education for four years. He resigned from the Department to undertake a tour of duty at Mawson base in the Antarctic with A.N.A.R.E.

Mr. A. L. Clarke, an Englishman, served as a radio mechanic in the British Army during the war. He took his B.Sc. degree in Physics at the Melbourne University in 1956. He has now joined the staff of the Division of Metrology.

Mr. D. R. Kingsbury has joined the Film Unit as a technical films officer. He has worked as a scriptwriter, editor, and director for the New Zealand National Film Unit and the U.K. National Coal Board film unit. He has also completed a number of free-lance assignments in the U.K. and Europe.

Miss Mary Cameron has been appointed to the staff of Head Office library. A bacteriologist and biochemist, she changed to library work in 1955. Miss Cameron recently spent a year in New York as a librarian in the Brooklyn Public Library.

Mr. J. F. Donovan has been appointed Divisional Administrative Officer at the Irrigation

Research Station, Griffith. An economics graduate, Mr. Donovan was formerly on the staff of Ampol Petroleum Ltd.

Mr. J. K. Voglmayr, an agricultural graduate from Vienna, has joined the Sheep Biology Laboratory, Prospect. Since arriving in Australia in 1957 he has worked on root nodule bacteria. Mr. Voglmayr is a keen skier and mountaineer.

Dr. Robert Story has joined the Division of Land Research and Regional Survey. A South African, he holds the D.Sc. degree of the University of the Witwatersrand. Before taking up his new appointment he was Head of the Botanical Survey Section of the Division of Botany, South African Department of Agriculture.

Dr. G. K. Rutherford, a New Zealander, has joined the Division of Land Research and Regional Survey. After taking his M.Sc. in New Zealand he went to Norway in 1949, and has taken a diploma in Agriculture and a Ph.D. degree there.

His 10 years in Norway have been interrupted by a visit to the Imperial College of Tropical Agriculture in Trinidad. During his stay in Trinidad, he was seconded to the Government of British Guiana, to equip a soil survey party in that country.

On his way to Australia, Dr. Rutherford spent a few days in Reykjavik, Iceland, where he read a paper to the Scandinavian Agricultural Congress.

Mr. N. C. Permezel, who has joined the staff of the Irrigation Research Station, Griffith, is a zoology graduate from Western Australia. He is also a keen amateur historian, and an active member of the Royal Historical Society of Victoria.

PROSPECT ON TELEVISION

CHANNEL 2, T.V. Station ABN, Sydney, made a telecast from the Sheep Biology Laboratory at Prospect, N.S.W., in the afternoon of 18th June.

DR. G. R. MOULE showed John Noble (one of the interviewers) around Animal House No. 2 and discussed with him wool growth studies on sheep fed in single pens.

This technique enables the exact amount of food eaten by the sheep to be measured and correlated with the wool it grows.

The complex artificial rumen apparatus built by Dr. A. C. I. Warner figured prominently in the session.

Known in the lab as the "tin sheep", this gear has a "stomach" (dialysing mem-

brane) which is bathed in artificial blood.

During the telecast, "food" was supplied to the "stomach" and diluted with artificial saliva.

The end products of the microbial digestion were regularly sampled and collected in test tubes as fresh quantities of "food" were inserted.

Dr. Warner made a slide of the rumen bacteria at work and viewers were able to see protozoa attacking a cellulose fibre.

Studies on the way in which hormones control wool growth were also illustrated.

Dr. K. A. Ferguson described how wool growth is assessed by clipping wool from a defined area of skin marked by tattooed lines.

Samples are cut at weekly or fortnightly intervals and growth under different treatments or at various times can be measured in this way.

The effect of the thyroid activity on wool growth was taken as an example. Mr. A.

M. Downes showed how radioactive iodine is used to measure thyroid activity.

Viewers saw a direct count being made of thyroxine labelled with ^{131}I (the radioactive isotope of iodine) in the neck of a sheep using a scintillation counter.

It was pointed out that other radioactive isotopes can be used to study wool growth.

Compounds labelled with radioactive atoms can be fed to sheep and the labelled compounds detected in the wool fibres as they come out of the skin a few days later.

In one experiment, cystine labelled with ^{35}S (a radioactive isotope of sulphur) was injected into a sheep and the wool was collected.

Viewers were shown an enlarged autoradiograph of patches of wool containing the radioactive sulphur.

A recording was made for transmission over ABV. 2 in Melbourne in the next few months.

Dr. A. C. I. Warner with his "tin sheep". This photograph was taken from the screen of a T.V. receiver.

John Noble interviews Mr. A. M. Downes. Radioactive iodine in the thyroid of a sheep is being measured by (from left) Messrs. C. A. Maxwell, L. F. Sharry and A. R. Till.



READING AND WRITING

BETTER communications was the theme for two training courses recently arranged by the Staff Section.

CONSIDERABLE publicity has been given recently to methods of increasing reading speeds.

Two small groups have now completed experimental courses in "Improved Reading" at Head Office and at the Animal Health Laboratory, Parkville.

Increases in speed achieved ranged from 45 to 130 per cent — with an average of 65 per cent — without any significant loss of comprehension.

These figures only give a general indication of the improvement achieved (they are not exact measurements), but they are sufficiently encouraging to make further investigation worthwhile.

New equipment is being bought and a third course will be conducted at Head Office, probably in August.

Although the administrative and clerical staff will benefit from this training, it seems that research and scientific staff have most to gain.

The two groups that took the experimental courses were mainly professional staff.

If the next Head Office course is successful, it is likely that Divisional Administrative Officers will be given instruction in the technique of conducting these courses.

They will then be able to train those members of their Divisional staffs who are concerned about the time it takes

them to read an ever-increasing amount of technical and semi-technical literature.

Better Writing

Improvement in writing ability was attempted in a course in "Effective Writing" held at Head Office recently.

The course was attended by 30 members of the clerical and library staffs.

They received six hours tuition and practice in the art of writing clear and simple English.

Emphasis was placed on appropriate tone, selection of relevant facts, avoidance of jargon, and sentence and paragraph construction.

Those attending were asked to write letters from the facts given to them (some of which were irrelevant) using their own words.

These letters and the actual letter which had been sent out from Head Office were then criticized and discussed.

Other courses of this sort are being planned.

Universities Commission

MEMBERSHIP of the Australian Universities Commission has been announced.

The Chairman is Sir Leslie Martin and the other members are Prof. N. S. Bavliss, Prof. A. D. Trendall, Dr. J. Vernon, and Mr. K. A. Wills.

Not for Profit — Not for Charity — But for Service

THIS is the motto of the Laboratories Credit Union Co-operative Limited which has its headquarters at N.S.L. It is one of the two co-operative credit societies operating in C.S.I.R.O.

The Society has been in operation for more than four years and has a membership of 279.

Total paid up capital and monies on deposit amount to £21,624.

600 loans have been granted totalling £62,885.

Membership is open to C.S.I.R.O. staff in New South Wales and the Society wants more members.

Loans can only be granted to staff appointed under Section

21 of the Act but this anomaly may be altered soon.

Associations, clubs and other groups of C.S.I.R.O. staff can become members and deposit surplus funds with the Society.

Money on deposit can only be accepted from members holding five fully paid £1 shares and can be accepted in lump sums or by regular instalments.

Interest at the rate of 6 per cent per annum is paid quarterly on all moneys on deposit.

The maximum loan that may be granted is £250. Generally a promissory note is the only security required.

Interest rate for loans is 7½ per cent per annum on quarterly balances, which is equivalent

to 4½ per cent per annum flat rate.

Loans may be granted for a wide range of purposes including purchase of household effects, taking up share issues, buying yearly railway tickets, and financing a trip overseas.

At present loans can be obtained within two weeks but this situation can change at any time.

The two C.S.I.R.O. co-operative credit societies offer you an attractive investment for your savings.

Both the N.S.W. and the Victorian Societies will be glad to hear from staff members who want to lend or to borrow money.

OUR STAR APPRENTICE



C.A.B. Director

DR. F. J. SIMMONDS, Director of the Commonwealth Institute of Biological Control, will arrive in Australia on 12th August, for a visit of eight weeks.

He will spend a week with the Division of Entomology in Canberra, and will visit entomologists in every State.

He will give a number of lectures to various bodies, including branches of the Australian Institute of Agricultural Science.

The Commonwealth Institute of Biological Control is the only Commonwealth Agricultural Bureau located outside the United Kingdom.

Dr. Simmonds is the fifth C.A.B. Director to visit Australia in recent years.

We have previously had visits from Dr. D. Akenhead (Bureau of Horticulture and Plantation Crops), Mr. G. V. Jacks (Bureau of Soils Science), Mr. A. W. Marsden (Bureau of Dairy Science), and Mr. A. C. G. Hill (Bureau of Pastures and Field Crops).

ECKHARD BEZ, an apprentice in the Division of Chemical Physics, has won the bronze medal of the Apprenticeship Commission of Victoria two years running.

Last year he submitted a micro-aperture punch he had made for punching the tiny aperture stops in the Division's electron microscope and electron diffraction camera. This instrument was judged the best exhibit, and won him the award for craftsmanship.

Jocelyn Terry of the A.B.C. television staff is shown the prize-winning exhibit by Eckhard Bez.

This year he won the award for an ion source for the Division's mass spectrometer.

Along with Bronze Medal award winners in other trades, Eckhard was interviewed last month on the A.B.V.-2 television programme "Panorama".

Australians For Wool Conference

A SECOND International Wool Textile Research Conference is to be held at Harrogate in England next year.

The first Conference of this sort, which was held in Australia in 1955, was highly successful.

It has been decided that a strong Australian contingent should attend the Harrogate conference.

The Australian Wool Bureau and the Wool Research Committee have each made available £10,000 to make this possible.

The Australian delegation, which is likely to include about fifteen C.S.I.R.O. officers, will also attend another conference arranged by the Textile Institute in London, immediately after the main conference.

Each officer in the party will travel on a tourist class round-the-world air ticket, and absence from Australia will be limited to 7 weeks.

SI-RO-SET USED WIDELY OVERSEAS

RECENT reports indicate that the SI-RO-SET process for permanent creasing and pleating of woollen garments is rapidly finding acceptance overseas.

THE process was invented by Dr. A. J. Farnworth of the Division of Textile Industry, Wool Research Laboratories, Geelong.

The International Wool Secretariat has accepted the job of promoting the process overseas.

More than 50 clothing manufacturers are using the process in England to treat men's suits, slacks and caps, women's skirts, and children's wear.

There are also several clothing manufacturers using the process in Eire.

In Germany the number of manufacturers using the process is less, about twelve, but individual production is greater and total output of treated clothing may be as great as that in England.

There are also about a dozen manufacturers using the process in France and a similar total in Belgium and Holland.

The process is well established in Sweden, Norway and Denmark, each of these countries having several manufacturers who are using SI-RO-SET and selling treated garments through various retail stores.

Even in Finland one large clothing manufacturer will be going into production within the next few months.

In Japan the SI-RO-SET process has found a particularly useful application in treating trousers for students' uniforms. Production is now going ahead satisfactorily, and treated uniforms are on sale in the retail stores throughout the country.

During March the process was given considerable publicity in the United States as a result of the efforts of the Wool Bureau Incorporated which is associated with the International Wool Secretariat.

Large scale production of treated slacks has already commenced and these are finding a ready sale. Production is expected to grow rapidly in the United States and Canada now that a start is being made.

In New Zealand responsibility for organizing the distribution of technical information about the process has been accepted by the New Zealand Wool Board.

Some nine clothing manufacturers have already been approved for production of SI-RO-SET garments which are now available through retail stores throughout the country.

In South Africa also the South African Wool Board has acted as a centre for dissemination of information, and several manufacturers of SI-RO-SET solution have now received approval.

Garments should be widely available before very long in South Africa.

The general publicity that has been given to the process has resulted in numerous inquiries being received from countries around the world.

There has been a great deal of interest in South American countries, and a large clothing manufacturer in Brazil is shortly to commence production of SI-RO-SET treated garments.

Manufacturers in countries with clothing habits and climates as diverse as Fiji, Morocco, and the Ryuku Is. have indicated their intention to commence production.

Insurance Sharks

TWO C.S.I.R.O. laboratories have recently reported unfair methods used by high-pressure life-insurance salesmen.

C.S.I.R.O. does not allow insurance sellers to approach staff during working hours.

This applies to all companies including those offering special schemes to C.S.I.R.O. staff.

Permission is occasionally given for a salesman to address a lunch hour meeting of those staff members who may be interested.

Recent reports indicate that some salesmen are trying to gain access to staff during working hours with the claim that they have permission to do so.

No such permission has been given.

Some unfair salesmen have told staff members that Commonwealth Superannuation benefits are subject to death duty.

They have urged that heavy life insurance be taken out to protect dependants who would have to find ready cash to

enable them to pay the duty.

Such claims are false. Pensions from the Commonwealth Superannuation Fund do not attract death duty.

We know that most insurance men do not support these unethical practices; the actions of a few unscrupulous people can give their business a bad name.

BURFITT PRIZE

THE Royal Society of New South Wales has forwarded information about the award of the Walter Burfitt Prize for 1959.

The Society has adopted the following conditions for the award.

- The Walter Burfitt Prize shall be awarded at intervals of three years to the worker in pure or applied science, resident in Australia or New Zealand, whose papers and other contributions published during the past six years are deemed of the highest scientific merit, account being taken only of investigations described for the first time, and carried out by the author mainly in these dominions.

- The prize may be awarded to two authors working in collaboration.

- The prize shall consist of a medal and the sum of £75.

The eleventh award will be made for work published during the six years ending 31st December, 1958.

Nominations should be forwarded to Head Office by 20th August.

Filipino Visitor

MR. L. A. YNALVEZ, a Colombo Plan Fellow from the Philippines, recently arrived in Australia to spend 12 months with the Division of Forest Products.

In his own country he is Unit Chief in the Pulp and Wallboard Section of the Forest Products Research Institute. He is a graduate of the University of the Philippines.

Whilst in Australia, Mr. Ynalvez will be trained in the development of adhesives of the phenolic type from tannins.

Apple Display

FRUIT growers and processors examined a special exhibition at the Food Processing Research Annex at "Stowell" in Hobart on Thursday, 2nd July.

The theme of the display was "apples".

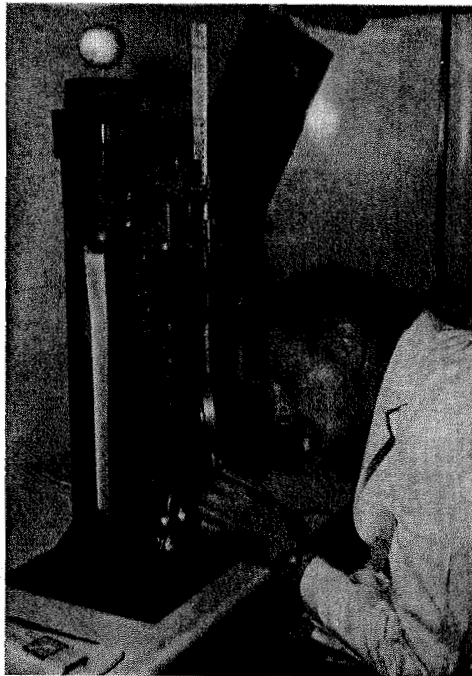
The exhibits featured results of the work which has been carried out in the past few years at "Stowell" on the canning and dehydration of apples and on the storage and handling of the fresh fruit.

About 80 visitors attended, many of whom discussed the

display with Dr. Vickery, Chief of the Division of Food Preservation and Transport, and members of the staff at the Tasmanian Regional Laboratory.

One of the most interesting exhibits compared fruit preserved by four different methods — dehydrocanned, canned, dehydrated, and deep frozen.

Gas analysis equipment is adjusted by Dr. J. Cerny at the Apple Demonstration Day at "Stowell".



CONTRIBUTIONS TO A.N.Z.A.A.S.

A.N.Z.A.A.S. (the Australian and New Zealand Association for the Advancement of Science) will hold its 34th congress in Perth from 24th to 28th August. C.S.I.R.O. people will contribute to the meeting in a number of different ways.

MESSRS. W. Hartley (Plant Industry), J. F. H. Wright (Head Office), and K. D. Nicolls (Soils, Tasmania) have helped the preliminary organization of the meeting by acting as honorary local secretaries in their respective States.

Dr. K. Sheard is a member of the Western Australian committee of A.N.Z.A.A.S. which is organizing the meeting.

Mr. C. S. Christian, Chief of the Division of Land Research and Regional Survey, is President this year of Section K (Agriculture and Forestry), while Dr. I. W. McDonald, Officer-in-Charge of the Sheep Biology Laboratory, Prospect, is President of Section L (Veterinary Science).

A good many C.S.I.R.O. scientists are giving papers at the meeting.

Drs. W. D. Crow and C. C. Culvenor (Organic Chemistry Section) are contributing papers to a symposium on the toxic effects of pasture plants.

Mr. A. F. Nickson and Dr. F. A. Blakey of the Division of Building Research will contribute to the proceedings of Section H (Engineering and Architecture).

Mr. B. Y. Mills (Radio-physics) will contribute a paper on "Radio astronomy and the structure of galaxies" to Section A (Astronomy Mathematics and Physics).

Two guest workers, one from England, the other from America, will visit A.N.Z.A.A.S. and take part in symposia.

They are Sir Ronald Fisher (Mathematical Statistics) and Professor Victor La Mer (Physical chemistry).

The largest C.S.I.R.O. contribution will be to Section K (Agriculture and Forestry). Amongst those giving papers are Mr. J. K. Taylor and Dr. R. J. Swaby of the Division of Soils, and the Section President, Mr. C. S. Christian.

From the host State, Messrs. P. G. Ozanne, A. W. Humphries, and Dr. R. C. Rossiter will read papers. Other contributors include Dr. J. F. Loneragan (Plant Industry) and Messrs. D. V. Walters and J. Dillon (A.R.L.S.).

COMMITTEE TO ADVISE ON COAL RESEARCH

THE Commonwealth Government has set up a Committee to advise it on research into the uses of coal.

Formation of the Committee was announced by the Acting Prime Minister (Mr. McEwen) recently.

The Committee is to review Australian and overseas research into the uses of coal.

It has been asked to recommend those lines of research which should be further encouraged and new lines which should be started.

Members of the Committee are: Mr. W. W. Pettigell, General Manager, Australian Gas Light Co. (Chairman); Dr. F. W. G. White, Chairman of C.S.I.R.O.; Mr. S. F. Cochrane, Chairman, Joint Coal Board; Dr. H. G. Raggatt, Secretary, Department of National Development; Dr. R. S. Andrews, Chairman, Gas and Fuel Corporation of Victoria; Professor J. P. Baxter, Vice-Chancellor, University of New South Wales; Mr. J. R. A. Glenn, Managing Director, I.C.I.A.N.Z. Limited; Dr. H. K. Worner, Director of Research, Broken Hill Proprietary Co. Ltd.

Checking Meat

MR. DENIS MUIRHEAD, an officer of the Division of Animal Health and Production who is attached to the Regional Pastoral Laboratory at Armidale, has been "borrowed" for six months by the Australian Meat Board.

He left Australia a fortnight ago for the United States



Mr. D. MUIRHEAD

where he will keep an eye on the marketing of Australian shipments of packaged meat. He will inquire into any actual or alleged faults in its preparation at the Australian end.

He was selected by the Meat Board because of his wide experience in the meat trade.

Mr. Muirhead will return to Australia in about six months time.

LOST DIGNITY



THIS photograph showing Dr. R. Carrick of the Wildlife Survey Section weighing an emu chick is one of a series of enlargements which was sent to an exhibition in Perth recently. They

formed the C.S.I.R.O. display in a Science Careers Exhibition.

The photographs with their captions will shortly be used in exhibitions in Adelaide and Mildura.

Overseas Visits

SEVERAL of our travellers going overseas this month are setting off in an easterly direction.

Dr. M. D. Hatch, an officer of the Division of Food Preservation and Transport, left recently for America. He has accepted a Fellowship at the Department of Agricultural Biochemistry of the University of California, initially for one year.

Dr. J. S. Hosking, of the Division of Building Research, leaves for America this week to take up an appointment as Special Associate Geologist with the State Geological Survey Division of the Illinois Board of Natural Resources and Conservation.

He will attend conferences at the University of Oklahoma and Purdue University. Dr. Hosking, who will be accompanied by wife and daughter, will be away for about eighteen months.

Dr. N. P. Kefford and Dr. P. L. Goldacre, of the Division of Plant Industry, also leave for America this week. They will attend the Fourth International Conference on Plant Growth Regulation at Yonkers, New York.

They will then go on to the Ninth International Botanical Congress in Montreal.

Dr. A. B. Wardrop, of the Division of Forest Products will attend the same conference in Montreal.

After his American visit he will proceed to Europe. Whilst in Europe he plans to visit

seven Russian laboratories in Moscow, Leningrad, and Tbilisi (Georgia).

Dr. G. Kaess, of the Division of Food Preservation and Transport, left this month on a three month trip around the world. He will visit centres of meat research in England, Scandinavia, Germany, France, Switzerland, Holland, and the U.S.A.

Mr. J. W. Gottstein, of the Division of Forest Products, left Melbourne last month on a five months visit to England, Europe, and the U.S.A. He will see at first hand work being done in the plywood and adhesive fields.

Mr. N. Tamblin, of the Wood Preservation Section, Division of Forest Products, spent three weeks of last month on a visit to New Guinea. He advised various housing authorities on treatments for building timbers.

Mr. R. O. Slatyer recently left Australia to attend two meetings at the invitation of U.N.E.S.C.O. The first meeting, on Arid Zone Climatology will be held at Quetta, Pakistan, this week, and the second, on "Plant-Water Relationships in Arid Conditions" will be held in Madrid in September.

Mr. Slatyer is an officer of the Division of Land Research and Regional Survey.

Mr. R. Beeby, of the Dairy Research Section, left last month for Switzerland. He will spend six months at the University of Berne, where he will study casein chemistry.

Mr. I. M. Threadgold (Mineralogical Investigations) has been granted leave to accept a two-year scholarship at the University of Wisconsin, U.S.A. Mr. Threadgold will work towards a Ph.D. degree in X-ray crystallography.

Printed by C.S.I.R.O., Melbourne

UNTREATED!

OLIPHANT CARTOON



"My stars! I forgot Digsby hadn't been shrink-proofed!"

Courtesy: "The Advertiser", Adelaide.

Madam Engineer from Israel

PROFESSOR RAHEL SHALON, Head of the Israel Building Research Station, paid a visit to the Division of Building Research last month.

Being a leading concrete technologist, she spent most of her time with Dr. Blakey and the Division's concrete group.

Mrs. Shalon is also Professor of Civil Engineering at the Israel Institute of Technology at Haifa, of which the Building Research Station forms a part.

Attractive, vivacious, and fiftyish, she is the only woman in the western world to occupy a chair of civil engineering.

Professor Shalon, who was brought to Australia by a group of Jewish architects and engineers, also visited University departments and the Victorian Housing Commission's concrete house factory.

Ph. T. DEGREE

THE WIFE of a C.S.I.R.O. man studying at Cornell has been given the Ph.T. "degree".

Mr. R. N. Farquar, of the Agricultural Research Liaison Section, has been in America for the past year, doing post-graduate work in agricultural extension at Cornell University. He was recently awarded the M.S. degree.

At the same time, his wife, Betty, received the Ph.T. degree.

The Ph.T. is a degree for the wives of graduating students. The letters stand for "putting hubby through".

It is a Cornell tradition. Originally conceived as a joke, it has become a serious and much-sought-after honour.

In full academic robes, the Dean of the Graduate School confers the "degree" upon each wife who has helped her husband achieve his educational goal.

The Farquars will stay on in Cornell for a further year, during which Mr. Farquar will work towards his doctorate.

Doctorates

Mr. Arnold Martin was recently awarded the D.Agr.Sc. degree by the University of Queensland.

Dr. Martin, an Englishman, joined the Division of Soils in 1949. He has been stationed at the Plant and Soils Laboratory in Brisbane ever since he arrived in Australia.

A few months ago, Mr. W. G. Kauman, of the Division of Forest Products, was awarded the degree of "Docteur en Sciences" with "grande distinction" by the University of Brussels.

Dr. Kauman spent two years in Belgium studying thermodynamics with Professor Prigogine.

C O R E S E A R C H

FOR CIRCULATION AMONG MEMBERS OF C.S.I.R.O. STAFF — NUMBER 6, MELBOURNE, SEPTEMBER 1959

How we fared in the Budget

Fund available to C.S.I.R.O. for 1959/60 (Budget figures)

	Non-capital £	Capital £	Total £
Treasury funds	6,772,000	1,007,000	7,779,000
Wool funds	1,218,000	355,000	1,573,000
Contributions	432,500	65,000	497,500
Total	8,422,500	1,427,000	9,849,500

Funds available to C.S.I.R.O. for 1958/59

	Non-capital £	Capital £	Total £
Treasury funds	6,075,000	551,000	6,626,000
Wool Funds	1,067,500	300,000	1,367,500
Contributions	291,700	42,000	333,700
Total	7,434,200	893,000	8,327,200

Increased funds for 1959/60 compared with 1958/59

	Non-capital £	Capital £	Total £
Treasury funds	697,000	456,000	1,153,000
Wool funds	150,500	55,000	205,500
Contributions	140,800	23,000	163,800
Total	988,300	534,000	1,522,300

C.S.I.R.O. will have a total of £9,849,000 to spend this year for both capital and non-capital items. A total of £7,779,000 will come direct from the Treasury of which £6,772,000 is for non-capital expenditure.

"THE BUDGET has been directed to the twin purposes of expansion and stability," the Federal Treasurer (Mr. Holt) told the House of Representatives in presenting his 1959/60 Budget.

Provision was made for increased pensions and other social services and taxation concessions, including a 5 per cent. cut in Income Tax.

Total expenditure is to be more than £1,385 million, an increase of 7½ per cent. on 1958/59 figures, and the budget anticipates a £61 million cash deficit.

"We are planning to bring down progressively the overall rate of increase in governmental expenditure," Mr. Holt said.

"Because the economy is growing, it is inevitable that

there should be some addition to total expenditure each year."

"But there must be limits to the increase and from our study of the position we believe that the rate of increase need not be as great next year as it has been this year," he added.

Treasury Funds

Within this policy framework C.S.I.R.O. was given an increase for non-capital items of £697,000 (11½ per cent more than in 1958/59) instead of an increase of more than £1 million asked for by the Executive.

Total Departmental expenditure is estimated at £72,682,000, an increase of £7,248,694 (11 per cent) on 1958/59.

Unfortunately this increase of £697,000 for C.S.I.R.O. provides for only a small amount of new development.

Allowance of £170,000 had to be made for an additional pay day since there are 27 pay days in 1959/60 compared with the usual 26.

The cost-of-living adjustment absorbs £132,000 and "inescapable" items (including increments) another £185,000.

This leaves only £210,000 (an increase of 3½ per cent) to finance new developments in the research programme.

This sum has to cover increased running expenses and certain other unavoidable commitments including increased grants to research associations and the higher cost of the studentship programme.

The net result is that virtually no Treasury funds are available for new projects, although in some instances small extensions have been possible in existing activities.

Other Funds

Fortunately money from wool funds and from other contributions has increased and has permitted expansion in some fields.

The Executive sought and obtained from the Wool Research Committee an additional allocation of £150,500 for non-capital expenditure.

£78,000 of this represents provision for the extra pay day, for the cost-of-living adjustment and "inescapable" salary items, leaving £72,500 (an increase of nearly 7 per cent. for developing the research programme.

Funds contributed from other sources have also increased by £140,800.

The principal additional items are:

Grant for Rice research	£50,400
Grant for Wheat research	£10,200
Grant for Tobacco research	£13,800
Grants from Rockefeller Foundation for equipment for Plant Industry and Entomology	£44,800

Capital Vote

A substantial increase (£456,000 or 83 per cent) has been made in the Treasury

Points from the Budget

IN his Budget speech Mr. Holt referred to two matters of special interest to members of C.S.I.R.O. staff.

"There will also be alteration to the Superannuation Act 1922-1958 to restore the basis of pensions that was adopted for the 1954 legislation", Mr. Holt said.

"The Government has also decided to increase on a contributory basis the future pensions for public servants who are contributors to the schemes", he added.

"Careful thought has been given to the position of existing pensioners, many of whom retired a number of years ago with pensions that were a proportion of the salaries being paid at the time".

Mr. Holt indicated that existing pensions would be increased.

Mr. Holt said: "The Government has also reviewed the provisions of the Commonwealth Employees' Compensation Act 1930-1956 and will increase the benefits provided under that Act for death or disablement".

money available for capital works.

Of the total sum available, £667,000 is for buildings, an increase of nearly 70 per cent over that available in 1958/59.

Approximately half of this money will be spent on the new laboratories for the Division of Food Preservation and Transport at Ryde, N.S.W.

The major new projects which will be started are a biochemistry laboratory at Canberra for the Division of Plant Industry, the second half of headquarters laboratories for the Division of Soils at Adelaide, and extensions to the Irrigation Research Station at Griffith, N.S.W.

The land acquisition item has increased from £50,000 to £150,000 mainly to cover the purchase of the 35-acre site adjacent to the Monash University.

Considerable expenditure will be made during 1959/60 on the giant radio telescope and on the phytotron. A total of £155,000 (Treasury funds) has been included in C.S.I.R.O.'s estimates for this purpose.

Money from wool funds for capital expenditure (£355,000 as compared with £300,000 in 1958/59) will be spent on buildings (£180,000) and plant and developmental items (£175,000).

The major new building items will be laboratories at Parkville and Geelong for wool textile research.

APPOINTMENT TO EXECUTIVE

DR. R. N. ROBERTSON, distinguished Australian plant physiologist, has been appointed as a full-time member of the Executive.

THIS follows the announcement last month of the appointment of Dr. F. W. G. White as Chairman in succession to the late Sir Ian Clunies Ross and will bring the Executive of C.S.I.R.O. to its full strength.

Dr. Robertson is an outstanding research worker who has unusually wide interests in both basic and applied aspects of plant physiology.



Dr. R. N. ROBERTSON

reasons for the poor keeping quality of large fruit and fruit from light crops.

His investigations on the maturity of peas have been of particular importance to the vegetable canning and freezing industries.

During World War II Dr. Robertson gave valuable help to the food control authorities through his investigations on the causes of heating in stored wheat.

Dr. Robertson has spent the past year in America as visiting Professor of Horticultural Science at the University of California.

He is at present on a short visit to the University of Cambridge and is expected to return to Australia this month.

Dr. Robertson was born in Melbourne in 1913. He graduated in science with first class honours in botany at the University of Sydney in 1933 and continued post-graduate research at that University as Linnaean Macleay Fellow.

He was awarded a Research Scholarship of the Royal Commission of the Exhibition of 1851 and went to work at the University of Cambridge, receiving the Ph.D. degree for research in plant physiology.

In 1945 he joined the staff of the C.S.I.R. Division of Food Preservation and Transport and took charge of work on the storage of fresh fruit and vegetables.

When a Plant Physiology Research Unit was formed in 1952 as a cooperative venture between the Division and the Botany School of the University of Sydney, Dr. Robertson became its leader.

Dr. Robertson is a Fellow of the Australian Academy of Science. He is a Corresponding Member of the American Society of Plant Physiologists.

The Royal Society of New South Wales awarded him its Clark Memorial Medal in 1954.

For many years Dr. Robertson was Secretary to the Australian National Research Council.

STAFF NUMBERS

(Figures at 30th June, 1959)

Research	879
Experimental	477
Technical	1184½
Clerical	636
Workshop	417
Ancillary	464
Total	4057

Minister away for ten weeks

THE Minister in Charge of C.S.I.R.O., Mr. R. G. Casey, left on 16th August to visit a number of countries overseas. He will be away for ten weeks.

The principal purpose of his visit is to attend the United Nations Assembly in New York in mid-September.

Mr. Casey also hopes to visit the National Research Council in Canada. He is interested, too, to see American research work into synthetic textile fibres.

Mr. Casey will be accompanied by his wife and by his private secretary, Mr. P. N. Hutton.

During Mr. Casey's absence, Dr. Donald Cameron (Minister for Health) will be acting Minister-in-Charge of C.S.I.R.O.

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SOLID STATE CONFERENCE

THE INSTITUTE of Physics (Australian Branch) held a conference on Solid State Physics at the University of Melbourne during the week beginning 17th August.

Of the 46 papers given, twelve were contributed by C.S.I.R.O. officers. The C.S.I.R.O. authors included Mr. Billington (Chemical Physics), Drs. Clarebrough, Hargreaves, and Ogilvie and Mr. Loretto (Tribophysics), Drs. Dryden and Harper and Mr. Cook (Electrotechnology), and Dr. Fletcher (Radiophysics).

Dr. F. W. G. White (Chairman, C.S.I.R.O.), Dr. A. L. G. Rees (Chief, Chemical Physics), and Dr. W. Boas (Chief, Tribophysics) each took the chair at different sessions of the conference.

A large contingent of overseas visitors came to the conference. They were representatives from the Universities of Oxford, London, Reading, Chicago, Canterbury, and Michigan State and the Massachusetts Institute of Technology.

Other visitors came from such notable institutions as the National Research Council,



At the Solid State Conference (from left): Dr. W. Boas (Tribophysics), Dr. W. M. Lomer (A.E.R.E. Harwell), Dr. J. C. Fisher (General Electric Research Laboratories, New York), and Dr. R. B. Dingle (University of W.A.).

Canada, the Oak Ridge National Laboratory, U.S.A., the Atomic Energy Research Establishment at Harwell, England, and the French National Standards Laboratory.

NEW APPOINTEES

Mr. J. F. Alvin has joined the staff of the Ore-dressing Laboratory, Melbourne. He has previously been employed as an analyst at Mt. Lyell, Mt. Isa, and Broken Hill.

Mr. B. B. Beard, has been appointed to a position of plant engineer in the Division of Textile Industry. For the past ten years he has been on the staff of Pilkington Bros. (Aust.) Ltd., glassmakers.

Mr. R. E. Belin, a New Zealander, has been appointed to the staff of the Division of Textile Industry. For about 10 years he was on the staff of the Dominion Physical Laboratory in New Zealand. More recently he has been with the Snowy Mountains Authority at Cooma.

Mr. J. N. Clark, an Englishman, has been appointed Divisional Administrative Officer in the Division of Entomology. He holds a Diploma in Public Administration from the University of Liverpool. Since coming to Australia in 1955 he has been a teacher with the Victorian Education Department.

Dr. N. C. Donovan, a New Zealander, has joined the staff of the Soil Mechanics Section. He has been in America for several years, and is married to an American girl. He has a Master's degree from Princeton University and recently took out his Ph.D. at Ohio State University.

Dr. E. A. N. Greenwood, who has re-joined the Organization, was once a Technical Assistant in the Division of Soils. He has since taken his bachelor's degree at Melbourne, and a Ph.D. at Nottingham. His new appointment is with the Division of Plant Industry in Western Australia.

Mr. C. J. Haigh has joined the staff of the Division of Mineral Chemistry. Since graduating M.Sc. from the University of Tasmania he has held a two year scholarship at the Explosives Research and Development Establishment of the Ministry of Supply in England.

Dr. R. D. Hughes has been appointed to the staff of the Division of Entomology. A graduate of the University of London, he has spent two years as an R.A.M.C. officer, working as a research entomologist

in the Far East. More recently he has been on the staff of the National Vegetable Research Station. He will sail for Australia this month.

Mr. C. J. Lancucki, formerly Polish, but now a naturalized Australian, came to Australia in 1950, when he was aged 15. He has since graduated in science at the University of Western Australia, and has been employed at the Weapons Research Establishment at Salisbury, S.A. He has now joined the staff of the Division of Building Research.

Mr. A. E. Perriman has been appointed to a technical administrative position in the Division of Chemical Physics. He has been in the Commonwealth Public Service for nine years, working in the P.M.G. Research Laboratories and the Department of Trade.

Dr. I. D. J. Phillips is on his way from the United Kingdom to Australia. On arrival, he will take up a position on the staff of the Irrigation Research Station, Griffith. Dr. Phillips, a Manchester graduate, recently spent a year at the Boyce Thompson Institute in New York.

Mr. T. R. Sweatman has joined the staff of the Division of Soils. Since graduating from Adelaide in 1953, he has spent three years in Northern Rhodesia with Rhoango Mine Services Ltd.

Chemists Travel

THREE members of the staff of the Chemical Research Laboratories have received invitations to present papers at important conferences overseas.

Dr. S. D. Hamann, of the Division of Physical Chemistry, left last month to lecture at a symposium on thermodynamics in Munich, Germany.

Dr. J. D. Morrison, of the Division of Chemical Physics, has been invited to give a paper before the American Chemical Society at its meeting in Atlantic City, U.S.A., this month.

Dr. A. D. Wadswley, of the Division of Mineral Chemistry, left last month on a four-weeks visit to the United States. He is giving a paper to the Conference on Inorganic Chemistry at New Hampton.

LECTURE TOUR

DR. P. N. JORANSON, Head of the genetics programme of the Biology Group, Institute of Paper Chemistry, Appleton, Wisconsin, arrived in Melbourne early in August.

Dr. Joranson is undertaking a study and lecture tour of two months' duration at the invitation of the Forestry and Timber Bureau, S.A. Woods and Forests Department, N.S.W. Forestry Commission, A.P.M. Forests Pty. Ltd. and the Division of Forest Products, C.S.I.R.O.

His interest is in genetics in relation to improvement of fibre characteristics and of wood for pulping and paper making purposes.

Co-operative Mineral Research

THE mineral industry is joining with the South Australian and Commonwealth Governments in forming a new body to control the S.A. Mines Department laboratories at Parkside and Thebarton.

The laboratories will be known as the Australian Minerals Development Laboratories.

C.S.I.R.O. is represented on the interim advisory council by Dr. I. W. Wark.

In addition to providing services to the S.A. Mines Department, the laboratories will undertake investigations on contract for industry.

C.S.I.R.O. will continue its co-operative work on ceramics which is now carried out in the laboratories.

ARGENTINE

MR. R. G. CHIANI of Buenos Aires, Argentina, will arrive in Australia during September or early October to spend 5 months with the Division of Forest Products under an F.A.O. Fellowship.

Mr. Chiani is Wood Technology Research Officer at the Ministry of Agriculture and Assistant at the Institute of Economics, University of Buenos Aires.

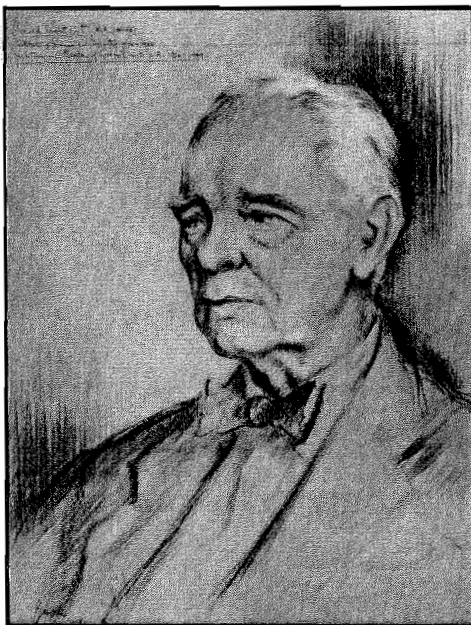
During his stay at the Division, he will study in particular the seasoning, preservative treatment, and utilization of the eucalyptus, which are becoming increasingly important in Argentina.

Haem. Symposium

THE FIRST international function to be held in the new Academy of Science building is a Symposium on Haematin Enzymes, which started on 31st August and continues until 5th September.

Forty leading research workers in this field from U.S.A., Great Britain, Italy, Sweden, Japan, Norway, The Netherlands, and Australia are attending.

FIRST SECRETARY



WE had the pleasure recently of seeing Mr. G. L. Lightfoot, the first Secretary of C.S.I.R. He is as distinguished looking as ever and very fit.

A short time ago his colleagues persuaded him to allow Charles Bush, the noted Victorian artist, to make a portrait of him in pastels. The portrait hangs in the Conference Room at Head Office.

Mr. Lightfoot was associated with the various forerunners of C.S.I.R. from their inception in 1916. He drafted the Act establishing the Commonwealth Council of Scientific and Industrial

Research and became its first Secretary in 1926.

He was responsible for the administrative structure of C.S.I.R. and played a leading part in its development.

Mr. Lightfoot graduated from the University of Cambridge with first-class honours in the Mechanical Science Tripos, and later was called to the Bar, Middle Temple.

This unusual combination of qualification as scientist and lawyer was invaluable in the setting up of a scientific organization which provided the pattern for similar bodies in other countries.



Dr. E. S. HODGSON

He will work on neurophysiology of insects on a Fulbright fellowship.

His work will be aimed at securing more information about the sensory and central nervous mechanism of insects which is necessary for understanding and controlling their behaviour.

Special emphasis will be given to studies of the physiology of certain primary cells which are particularly important in relation to behavioural responses in insects.

Dr. Hodgson is accompanied by his wife and two sons.

Earl de la Warr

THE London Chairman of the Royal Commonwealth Society, Earl de la Warr, will visit the Organization's Canberra laboratories this month.

Lord de la Warr, who is on a tour of British Commonwealth countries, has had a distinguished career in politics and public service.

He has held several posts in the British Cabinet, including that of Postmaster-General. He is keenly interested in farming, and was Chairman of the Agricultural Research Council from 1944-49.

De la Warrs have played a notable part in English history.

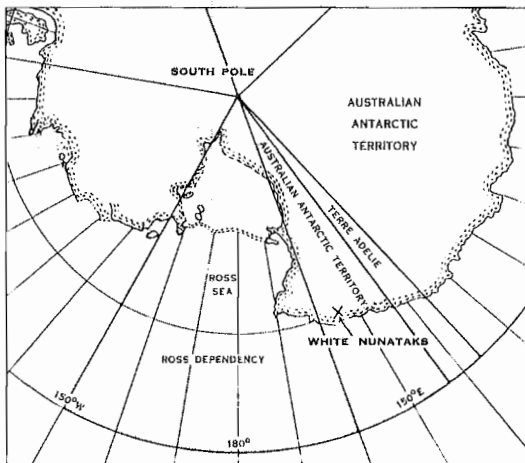
The American State of Delaware derives its name from the occasion in 1610 when another Lord de la Warr sailed into what is now called Delaware Bay.

Technical Association

AN A.C.T. branch of the C.S.I.R.O. Technical Association has been re-formed. Technical staff attached to the various Canberra Divisions and their field stations will be eligible for membership.

The Secretary of the branch is Miss Kathleen Mowle, of the Division of Land Research and Regional Survey.

The branch's representative in Brisbane is Mr. T. Blich, Cunningham Laboratory, Mill Road, St. Lucia, Queensland.



CONTRIBUTIONS made by Dr. F. W. G. White, Chairman of C.S.I.R.O., to the Australian National Antarctic Research Expedition through his work on its executive planning committee has been recognized by attaching his name to a feature of the Antarctic Continent.

White Nunataks comprise two rock outcrops of elevation about 1500 feet above sea level.

They project from the continental ice sheet some miles inland from the coast of Oates Land in longitude 156°15' East.

They mark the edge of the steeply rising terrain which forms the Antarctic plateau.

An obvious coastal feature in this area, they are five miles distant on either side from the adjacent mountains.

N.T. POTENTIAL

THE Commonwealth Government has appointed a committee to report on future prospects for agriculture in the Northern Territory.

MEMBERS of the Committee are Professor H. C. Forster (Professor of Agriculture, University of Melbourne), Mr. C. R. Kelly (Farmer and Member of South Australian Parliament), and Dr. D. B. Williams (Officer-in-Charge, Agricultural Research Liaison Section, C.S.I.R.O.).

In announcing the formation of the Committee, the Minister for Territories (Mr. P. Hasluck) said it was a step towards building up a sound economic case for promoting closer settlement in the Territory.

The Committee is to inquire and report on

- the prospects of promoting agricultural settlement on an economic basis in the Northern Territory,
- the major factors to be considered in shaping an agricultural policy for the Territory.

THIS MONTH

Executive meets in Melbourne 2nd September.

Advisory Council Committee on Division of Forest Products meets in Melbourne on 7th to 9th September.

Symposium on Proteins at Melbourne on 10th and 11th September.

Space Research Committee

FIRST meeting of the National Committee on Space Research was held at the Weapons Research Establishment, Salisbury, S.A., at the end of July.

PROJECTS discussed included photographing the sun and stars from high altitude balloons and rockets.

Measurement of ultra-violet radiation from the stars by observations outside the atmosphere was also proposed.

Professor L. G. H. Huxley, Convenor of the Committee, said that Australia was in a unique position to make important measurements in the southern hemisphere.

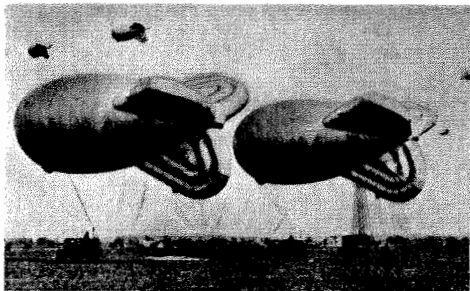
Dr. BASTOW ILL

RECENTLY Dr. S. H. Bastow suffered a coronary thrombosis and is now in the Mercy Hospital, Melbourne.

He is making satisfactory progress but is not expected to resume duty for some time.

Barrage Balloons Bought

REMEMBER the barrage balloons which flew over London during the Battle of Britain? Thirty-six of them are now on their way to Australia, consigned to C.S.I.R.O.



The balloons will be used by Mr. Alec. Costin's alpine ecology group in the Division of Plant Industry.

The balloons will not be filled with hydrogen and flown in the air. They will be split up the middle and spread on the ground.

The alpine ecology team is studying the water balance of swamps. It is able to measure the water flowing in to swamps by measuring rainfall and the flow-rate of streams and springs.

The difficulty lies in finding out how water is lost from the swamp.

One method is to cover

the surface of the swamp with an impermeable membrane, so that the surface loss factor can be eliminated.

As the experimental swamp is about 60,000 square feet in area, the use of such materials as polythene would be far too costly.

The idea of using barrage balloons was originally put forward as a facetious suggestion.

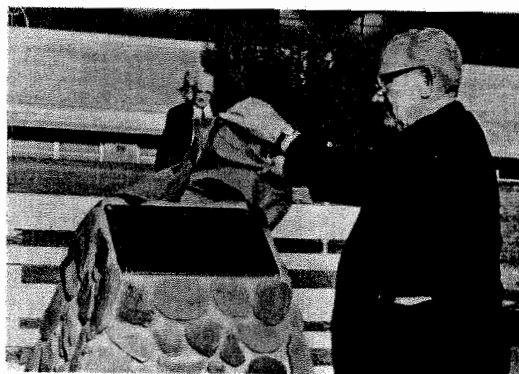
When the idea was followed up, however it proved to be a cheap and simple solution to Mr. Costin's problem.

Professor Cornish

The University of Adelaide has recently decided to establish the new Chair and has invited Dr. E. A. Cornish, Chief of the Division of Mathematical Statistics, to fill it during the initial five year period.

Dr. Cornish will retain his present C.S.I.R.O. appointment. The Executive has welcomed the proposal since it will stimulate the training of mathematical statisticians in Australia and enable further close cooperation between C.S.I.R.O. and the University.

The new Chair will be inaugurated on 1st January, 1960.



HIGHETT PERSONALITY RETIRES

MR. E. SWARBRECK recently retired after being in charge of the workshops of the Division of Building Research since 1946.

He is a carpenter by trade and takes considerable pleasure in wood working and particularly in wood turning.

Throughout his life he has been keenly interested in Australian flora.

Just 10 years ago he laid out a garden at Highett consisting entirely of native

shrubs and trees.

This provides a delightful oasis in the somewhat prosaic grounds of the Division of Building Research.

The collection now contains about 100 species and varieties and is well established.

It has attracted a great deal of interest, not only from the casual visitor, but also from groups such as the Field Naturalists Club of Victoria of which Mr. Swarbreck is a member.

Land Survey with Fanfare

THE Division of Land Research and Regional Survey is beginning a land survey of the Hunter Valley of N.S.W.

ALTHOUGH the Division has examined over 600,000 square miles of country, this will be the first survey of a "developed" region.

Already, differences are showing up, even before the field work has begun. For instance, it is doubtful if any C.S.I.R.O. research project has ever been started by a State Premier unveiling a commemorative plaque and granting a holiday to local school children.

This notable event took place beside the New England Highway near Muswellbrook when the Hon. J. J. Cahill, M.L.A., launched the survey. Dr. S. H. Bastow came from Head Office to reply on behalf of C.S.I.R.O.

The land survey is being undertaken in association with

The N.S.W. Premier (Mr. J. J. Cahill) unveils a plaque commemorating the start of the Hunter Valley land survey.

D.F.P. REVIEW

MR. S. A. CLARKE, Chief of the Division of Forest Products, will retire next year. The Advisory Council, following usual practice, has decided to appoint a committee to review the activities of the Division.

In the last few months similar committees have reported on the activities of the Divisions of Animal Health and Production and of Entomology, whose Chiefs will soon retire.

Three members of the Advisory Council will sit on the Forest Products committee. They will be Messrs. H. B. Somerset and E. M. Schroder, and Professor N. S. Bayliss.

Other members will be Professor R. L. Crocker (Botany, Sydney), Professor A. J. Francis (Civil Engineering, Melbourne), Messrs. J. W. Youl (Victorian Sawmills Association), S. G. Jennings (Forestry Department, Q'ld.), A. C. Harris (Forests Department, W.A.) and I. Langlands (Chief, C.S.I.R.O. Division of Building Research).

PHYSICIST FROM HIROSHIMA

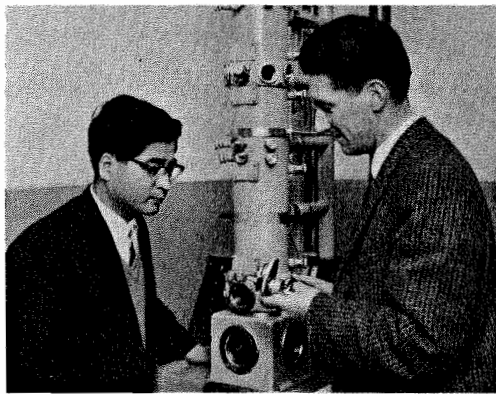
DR. SHIGEYA KUWABARA, of the Department of Physics, Hiroshima University, arrived in Australia last month.

Dr. Kuwabara, aged 36, has a wife and three children. He was born in Shanghai, but moved to the vicinity of Hiroshima at the age of 10. He was a student at the University in 1945 when the atom bomb was dropped.

At the time of the explosion he was at his lodging house, sheltered from the blast centre by a small steep hill, and he escaped serious injury.

The ferro-concrete buildings of the University, on the fringe area of total destruction, remained standing, although largely burnt out. They have, of course, since been refitted and re-equipped.

Dr. Kuwabara's work has included experimental tests of the theories for the intensities of electron beams diffracted by crystals. He has obtained some of the most reliable data yet obtained in this difficult field.



Dr. J. M. Cowley shows Dr. Kuwabara an electron diffraction camera at C.R.L.

MEAT RESEARCH CENTRE

THE Meat Research and Teaching Centre set up jointly by C.S.I.R.O. and the University of Sydney at the University's Animal Husbandry Farm at Camden, N.S.W., is nearing completion of the first stage of its development.

The Laboratory Unit is almost finished. Space for storing and treating fodder and 20 cattle pens have also been erected.

As soon as suitable crush and weighing facilities are installed, these feeding pens will be ready for use by the research team.

A major aim of the Centre will be to investigate ways and means of producing maximum quantities of high-quality beef at minimum cost.

Dr. M. C. Franklin, William McIlraith Fellow in Animal Husbandry, will be the senior C.S.I.R.O. officer at the Centre.

NEW ADDRESS

THE Division of Food Preservation and Transport has a new postal address for its Meat Research Laboratory at Cannon Hill, Q'ld.: P.O. Box 12, Cannon Hill, E.4, Q'ld.

S.A. Builders See Research

RECENTLY thirty members of the South Australian Chapter of the Australian Institute of Builders made a special trip by air from Adelaide to spend the day at the laboratories of the Division of Building Research.

They were accompanied by the President of the Chapter, Mr. R. A. O'Neill.

The visit was the result of interest in the work of the Division aroused by a paper on "Better Construction through Better Materials" which Mr. Ian Langlands, Chief of the Division, presented at the "Better Construction Seminar" organized by the Australian Institute of Builders in Canberra in May 1959.

Protein Symposium

A TWO-DAY SYMPOSIUM on Proteins will be held at the laboratories of the Division of Protein Chemistry on 10th and 11th September.

Twenty-two papers will be given, including contributions from the Divisions of Chemical Physics, Entomology, Plant Industry, Protein Chemistry, and Textile Industry.

Representatives from four Australian universities and

several other institutions will also present papers.

The principal lecture will be given by Dr. R. L. M. Synge, F.R.S., of the Rowett Research Institute, Aberdeenshire.

Dr. Synge, a Nobel laureate, is at present working at the Ruakura Animal Research Station at Hamilton, New Zealand.

Invitations have been extended to a number of distinguished overseas visitors, including some who will be in Australia for the Conference on Haem Compounds.

Fellowships

Dr. C. A. Appleby of the Division of Plant Industry has been awarded a Rockefeller Foundation Fellowship. He will spend a year working under Professor M. D. Kamen in the Graduate School of Biochemistry, Brandeis University, Waltham, Massachusetts.

Dr. C. S. Gunn, of the Division of Radiophysics, has been awarded a Fellowship by the Carnegie Institute of Washington. He left last month to spend a year at the Mt. Wilson-Palomar Observatories, where he will work on polarization in external galaxies.

FROZEN FOOD

LAST month a box of frozen foods was sent from Sydney to the 10th International Congress of Refrigeration in Copenhagen.

The box was designed and constructed in the workshops of the Division of Food Preservation and Transport.

Weighing only 10 lbs., it was designed to carry 40 lbs. of frozen food, and 15 lbs. of dry ice.

The package was despatched by the Department of Trade through Qantas.

Arrangements were made to re-charge the box with dry ice at Singapore and Karachi.

Overseas Visits

Dr. E. L. French, of the Division of Animal Health and Production, has departed overseas. He will first spend a month in South Africa making contacts with workers in animal virology. He will attend a British Council school on foot and mouth disease in England, and return home via North America.

Dr. G. F. Humphrey, Chief of the Division of Fisheries and Oceanography, leaves this month on an overseas visit of seven months duration. He will spend six months of this time studying the metabolic functions of marine algae at the University of London.

Mr. Ian Langlands (right centre) chats to Mr. R. A. O'Neill (left centre) and two other builders from South Australia.



WASH AND WEAR (The Division of Textile Industry will soon release its wash-and-wear process).



PAST

PRESENT

With grateful acknowledgment to "Textile Industries".

FIRE DRILL

WHAT to do in case of fire. We print the following summary of advice given recently by the Chairman of the Commonwealth Fire Board.

A FIRE has a small beginning but spreads rapidly. Attack it quickly whilst it is small.

Ask your telephonist to call the Fire Brigade and to raise the alarm in the building.

Give full details about the fire — give your address and say where the fire is in the building.

Keep doors and windows closed to cut down draughts and to check the rate at which the fire spreads.

A small fire can often be put out by smothering it with a towel or overcoat or by dousing it with water.

Use hand extinguishers in the early stage of a fire. Get close enough to let the stream reach the centre of the fire (within 10 feet of the centre).

Use a fire hose, but make sure it is connected to the tap and that the full length is run out before turning on the water.

If you are caught in a burning building get out as quickly as you can.

Breathing hot air and fire gases can be fatal. Air is usually better near the floor in a smoke-filled building. If possible breathe through a wet cloth.

Hold your breath if you have to make a dash through smoke or flame.

If your clothes catch alight

roll on the ground to smother flame, and at the same time tear off burning garments.

Don't run with your clothes alight. Running fans the flame and speeds up burning.

If you are burned or exposed to fire and smoke, get medical treatment at once. Seemingly minor burns or smoke inhalation can be fatal.

Don't jump from upper-storey windows except as a last resort — wait for the firemen.

Don't go back into a burning building for any reason — smoke and fire gases from even the smallest fire can be deadly.

Now, while there is no fire, is the time to learn the position of all fire escapes in your building.

Chief Resigns

DR. K. L. SUTHERLAND has been appointed Director of Research of the Colonial Sugar Refining Ltd.

This is a new position established by the company.

Dr. Sutherland has resigned from his post as Chief of the Division of Physical Chemistry in the Chemical Research Laboratories.

His resignation will be effective from the end of November.

Printed by C.S.I.R.O., Melbourne

CORESEARCH

FOR CIRCULATION AMONG MEMBERS OF C.S.I.R.O. STAFF — NUMBER 7, MELBOURNE, OCTOBER 1959

WASH-AND-WEAR WOOLLENS

"THE most exciting discovery since the first wool was woven" was how Mr. W. A. Gunn, Chairman of the Australian Wool Bureau, described C.S.I.R.O.'s new process for washable non-iron wool.

Mr. Gunn was speaking at a meeting at the Wool Research Laboratories, Geelong, on 4th September to announce the new SIRONIZED process to the trade.

The meeting was one of the largest industry meetings held at the Geelong laboratories.

"Men's shirts, school clothes, dresses, blouses, skirts, and other clothing made from the fabric will be on sale throughout Australia early next year", he said.

Mr. Gunn said that immediately large-scale production of washable non-iron wool fabric was in progress, the Wool Bureau would back it with all its resources.

Scientific Triumph

"This splendid news heralds easy care and easy wear for wool", he added, "and is another triumph for our scientists who have already given us permanent creasing and pleating with SI-RO-SET, shrinkproofing, and other valuable processes including mothproofing".

Dr. F. W. G. White, Chairman of C.S.I.R.O., said the SIRONIZED process was cheap and easy to apply and had no adverse effect on the colour or "handle" of the wool.

He had worn a shirt made from the new wash-and-wear fabric for more than a year, and it had stood up extremely well to hard wear and repeated washing.

Dr. White said we were living in an era when people wanted less labour in the home.

From left: Margaret Rankin, Lesley MacGowan, Marlene Lowe, Valeria Tomljanovics, and Janice Kroger of the Wool Research Laboratories, Geelong, examine a range of garments treated by the SIRONIZED and SI-RO-SET processes.

Valeria works as a technical assistant to Dr. Farnworth.

Materials that stood up to wear, did not shrink, and suited washing machines could do much for wool.

Release of details of the SIRONIZED process to the trade followed a long period of research and trial.

Washed 220 Times

Dr. M. Lipson, Chief of the Division of Textile Industry, showed the meeting a shirt which had been washed and dried 220 times without ironing and it was smooth and sound.

He said the cost of the new process would be no more than 1/6 to 2/- a yard for 54-inch fabric, and no special equipment was needed to manufacture it.

The SIRONIZED process was developed in the Division of Textile Industry by Dr. A. J. Farnworth, Dr. M. Lipson, and Dr. J. R. McPhee.

C.S.I.R.O. was given considerable help by the trade, particularly Yarra Falls Ltd., The Returned Soldiers' Woollen Mill (Geelong), and Leeds Dyeing and Chemical Works Pty. Ltd., in developing the process from the laboratory to full-scale production.



The process is carried out in two steps: shrinkproofing and setting.

The recommended method of shrinkproofing is a new one involving the use of potassium permanganate under conditions which prevent damage to the wool.

It is applied to woven fabrics on standard dye-house equipment and mill trials have shown that the method can be easily adopted in the normal processing routine without strict analytical control.

This method of shrinkproofing will find many other applications, including the shrinkproofing of blankets and knitwear.

Several other shrinkproofing treatments are known to be effective and can be used instead of the new method.

After shrinkproofing, the fabric is then stabilized or set.

This consists in wetting the fabric with a dilute solution of sodium bisulphite in water, and while the fabric is still wet, blowing with steam, usually in a conventional blowing machine.

Finally the fabric is finished to avoid strains which might otherwise cause subsequent relaxation shrinkage.

The SI-RO-SET process can be used to set permanent pleats and creases in the treated fabric.

No Ironing

Garments made from the fabric can be laundered without special precautions and, when dry, can be worn without ironing.

Garment makers will need to observe the usual precautions in making up treated fabrics by using, for example, correct sewing tensions and shrinkproofed linings. These are the normal precautions for this kind of finish.

The certification mark "SIRONIZED" will be used to identify washable non-iron wool fabric treated by the new process to C.S.I.R.O.'s requirements.

C.S.I.R.O. will permit manufacturers who demonstrate that they can correctly apply the process and carry out the necessary control tests to use this mark.

The process will be made available to overseas manufacturers through the International Wool Secretariat.



—Courtesy "The Herald", Melb.

MRS. ARTHUR FARNWORTH, shown here with her children Michael, 9, Paul, 8, and Louise, 6, has been acting as a guinea pig for the SIRONIZED process for a year. So have the children.

Result — Mrs. Farnworth has been able to cut her wash-day chores very considerably.

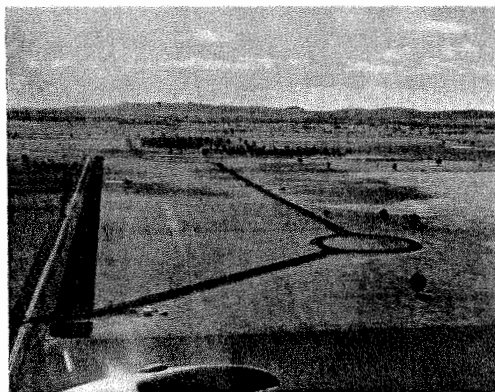
Mrs. Farnworth is wearing the dress she has made from the new fabric — a very fine worsted.

The Farnworth children have been wearing treated wool to school for three months.

Attractive dress and jacket ensemble, one of the first designed to use washable non-iron wool fabric.



RADIO TELESCOPE SITE



FIRST sod on the site for the giant radio telescope at Parkes, N.S.W., was turned recently by Dr. E. G. Bowen, Chief of the Division of Radiophysics.

Road work on the site is already well advanced.

Concrete Constructions Ltd., the Australian subcontractor to the German firm of M.A.N., has started work at Parkes.

The company expects to finish the foundations and the erection of the supporting tower in December of this year.

Site for giant radio telescope at Parkes, N.S.W. The telescope will occupy the circle at the right.

Sojourn on Manihiki

By J. S. Hynd

EARLY this year following a request through the South Pacific Commission, C.S.I.R.O. lent Mr. Stan Hynd to the Cook Islands Administration as an adviser.

Mr. Hynd is Officer-in-Charge of the small station set up by the Division of Fisheries and Oceanography at Thursday Island. He has been studying pearl oysters there for the past ten years.

The Cook Islands lie about 750 miles to the west of Tahiti. They are typical coral atolls, and are now a dependency of New Zealand.

The 14,000 islanders are Polynesians, and about 90 per cent. of them are Christians. The "capital" is Avarua, on the island of Rarotonga.

Pearl shell oysters have been grown in the lagoons surrounding some of the atolls. Mr. Ron Powell, Fisheries Officer of the Cook Islands Administration, has been taking active steps towards rehabilitating this industry.

Mr. Hynd worked with Mr. Powell from April to June on Manihiki, where Mr. Powell was conducting his experiments.

This extract from an article Mr. Hynd wrote for the "Cook Islands Review" describes their survey work on the island.

THE first thing that impressed us on Manihiki was the large number of young pearl shell which had settled on all the islets and rocks.

We found that there was much deep water in the lagoon which was inaccessible to divers, i.e., deeper than 20 fathoms. This limitation is imposed by the diving gear in local use and not by the physical capabilities of the divers.

A subsequent survey by Mr. Powell showed that this deep water extended over one half the area of the lagoon.

On several occasions when we were diving 20 fathoms on steep slopes we could see that the pearl shell existed down at least another 5 fathoms.

We therefore concluded that the young shell in the shallower water had probably come from the spawning of these older and unfished shells. This is important because it ensures that the lagoon can never be "fished out" by the present diving methods.

With this first exploration completed we settled down to the major part of our programme.

The main facts that we wanted to find out about the pearl shell population was its size, its age, composition,

and its natural mortality rate. We also wanted to find out the growth rate of the individual oysters.

If all these facts are known it is possible to calculate the best age at which to pick the shell and the number that can be taken each year without depleting the stocks.

Tagging

The individual growth rate is determined by "tagging". Shell at all ages and sizes are fished, cleaned of weed and other growth, weighed, measured, and marked with a little round numbered disc—the tag.

They are then returned to the bottom or placed under other special conditions and left alone for one year. At the end of a year they are renumbered and the increments calculated.

These increments can be combined into a single curve showing the size of the shell at any age.

We tagged 1000 pearl shells in Manihiki. Some were returned to the bottom from which they had been picked. Their subsequent growth will give a measure of the growth rate under natural conditions.

Others were attached to wire mesh and returned on the bottom. Others still were at-



Mr. J. S. Hynd (left) and Mr. R. Powell on the beach at Manihiki.

ached to nylon ropes and suspended from submerged glass floats.

The other information we required about the pearl shell population is usually obtained by sampling. Samples are taken at random or according to a pre-arranged plan and the shells weighed and measured and the data recorded.

Deep Water

We planned to take about 10 samples of between 100 and 200 individuals from various parts of the lagoon. It was impossible to sample the shell from the deeper water because of the limitations imposed by the diving gear.

These samples will have to be obtained later to make the information complete and negotiations have been got under way to obtain the assistance of Navy divers and diving gear.

We collected and measured just over 1500 individual oysters. Under the system employed there are 28 individual measurements which can be taken on any one oyster and we carried out the full set of measurements on the majority

of these 1500 oysters. All these data will be sent to Australia for analysis.

In addition to the shell measurements we sometimes took samples from the reproductive organs of the oysters.

These samples will be treated by a special process which renders them transparent when viewed through a microscope and it is then possible to discover what stage of the reproductive cycle the oyster is at.

These samples will be continued at monthly intervals and in this way it will be possible to tell when the oysters are spawning.

The M.V. "Dobiri" arrived back in Manihiki in June and was scheduled to depart two days later. There was a frantic last-minute rush to complete collection and data and pack samples and gear, but finally everything was satisfactorily arranged and I found time to say farewell to the many good friends I had made during my stay here.

Fulbright Grants

THE United States Educational Foundation announces that travel grants under the provisions of the Fulbright Act are available to Australian citizens to go to the United States for study, research or lecturing at American universities and other institutions of higher learning during 1960-61.

These travel grants are available for travel to the United States for or during the American academic year 1960-61.

All travel grants cover the cost of direct travel between the candidate's home in Australia and the institution he wishes to attend in the United States. No allowances are made for dependants' travel.

All awards are made in open competition. Further information may be obtained from Head Office.

Overseas Travellers

Dr. A. B. Hope, of the Plant Physiology Unit, Division of Food Preservation and Transport, will leave shortly for America. He has been invited to attend a conference on "Radio-isotopes in the biosphere" in Minneapolis. Dr. Hope will also visit various laboratories at the University of California.

He will return to Australia via the United Kingdom, as he wishes to spend a few days at Cambridge with Professor Briggs, with whom he is collaborating in the writing of a monograph on plant physiology.

Dr. A. J. Farnworth, M.B.E., who has been prominently associated with the SI-RO-SET and SIRONIZED processes, left a few days ago for the

United States. After one month, he will go to the Swedish Textile Research Institute at Gothenburg, where he will work with Dr. Lindberg on the setting and relaxation of wool fabrics.

Before returning home, he will join the Australian delegation at the second International Wool Textile Conference at Harrogate, England.

Mr. R. F. Riek, of the Veterinary Parasitology Laboratory, Yeerongpilly, Queensland, has been awarded a S.E.A.T.O. fellowship.

He left recently to spend three or four months in Onderstepoort, South Africa, with Dr. Nietz, an authority on canine ticks. Mr. Riek's own research interest is the study of cattle ticks.

NEW APPOINTEES

Dr. J. W. Loder has been appointed to the staff of the Organic Chemistry Section, Chemical Research Laboratories. Dr. Loder left Sydney on an I.C.I. Fellowship to the University of Liverpool in 1954. He graduated Ph.D. from that University in 1957.

Since 1957, Dr. Loder has held the European Research Associates Research Fellowship at the Dysons Perrins Laboratory, University of Oxford. He and his wife are now en route

to Australia in the "Orcaades".

Aboard the same ship will be Mr. K. Wilson-Jones, who is coming to Australia to take up his appointment as Director of the Coastal Plains Research Station at Darwin. This station will be a part of the Division of Land Research and Regional Survey.

Mr. Wilson-Jones, a Manchester graduate, has spent a number of years in the Sudan as a Senior Economic Botanist.

Associate Professor R. V. Dunkle, of the Department of Mechanical Engineering, University of California, Berkeley, arrives in Australia this week to take up an appointment in the Engineering Section. He will work with the group studying the utilization of solar energy. Professor Dunkle is accompanied by his wife and three daughters.

Lieut.-Commander R. H. Davis, R.N. (retired), has been appointed Master of the F.R.V. "Derwent Hunter". Commander Davis served in the Royal Navy for 20 years, nine of which were spent in submarines. He served in the R.A.N. for three years (1954-57) on loan from the R.N.

Mr. R. H. Messemackers van der Gnaaf has been appointed to the staff of the Division of Land Research and Regional Survey. A graduate of the Agricultural University of Wageningen, he has had experience in soil survey work in Nigeria.

Mr. A. J. van Heel has joined the staff of the Division of Textile Industry, Wool Research Laboratories. Earlier this year he graduated from the University of Leeds. He will take part in the Division's programme of work on worsted processing.



Duke to Visit Liaison Office

The British Commonwealth Scientific Office in London is made up of units representing the various Commonwealth countries. The Australia Scientific Liaison Office is one of these units.

On Tuesday, October 20th, the Duke of Edinburgh is to be entertained at luncheon by the B.C.S.O. committee.

The Committee have decided to display some photographs at the luncheon, illustrating scientific work in various Commonwealth countries.

From Australia, a selection of outstanding photographs has been sent to London.

This photograph, which will be sent to London, shows a seal being identified by a spot of paint, before being weighed. The picture was taken on Macquarie Island.

I.W.S. Advisers Here

TWO leading figures in international wool promotion arrived in Australia last week.

THEY are Dr. E. G. Carter, Scientific Advisor to the International Wool Secretariat in London, and Dr. G. Laxer, Director of Science and Technology at the Wool Bureau in New York.

Both men have come to Australia to see as much as possible of the work of the C.S.I.R.O. Wool Research Laboratories.

They will discuss technical aspects of wool use promotion with Dr. F. W. G. White and Mr. W. A. Gunn, Chairman of the Australian Wool Bureau.

Drs. Carter and Laxer will be particularly interested in the new wash-and-wear process recently developed by the Division of Textile Industry.

Both men have played a leading part in the introduction of the Division's SI-RO-SET process in overseas countries.

They have already visited the McMaster Animal Health Laboratory and the Division of Textile Physics in Sydney. This week they will spend a couple of days in Brisbane with Mr. Gunn before going south to Victoria.

In Victoria, they will visit the Division of Protein Chemistry in Melbourne and the Division of Textile Industry in Geelong.

A special trip to Adelaide will be made to inspect the solvent degreasing plant at the works of G. H. Michell and Sons Ltd. This plant was invented by officers of the Division of Textile Industry.

Drs. Carter and Laxer will leave Australia to return to their respective countries in mid-October.

NORTH CAN PRODUCE £50M. MORE

RESEARCH shows tremendous potential for agricultural expansion

"DEVELOPMENT of agriculture in northern Australia could add £50 million a year to Australia's national income", Mr. C. S. Christian, Chief of the Division of Land Research and Regional Survey, told the A.N.Z.A.A.S. Conference in Perth last month.

Mr. Christian said post-war research provided the scientific basis for a revolutionary change in land use over a big area of northern Australia.

His Division had now sur-

veyed the top section of northern Australia from the base of Cape York to the Kimberleys.

Surveys had exploded the "popular myth" that rainfall in the area was too low and too erratic for stable agriculture.

Base camp for L.R.R.S. Survey Team. Most of northern Australia has now been surveyed by these mobile teams.

Major points arising were:—
• Development of waste land could make northern Australia economically independent of the rest of Australia.

• A stable mixed farming agriculture based on peanuts as the main cash crop was possible without irrigation on at least 3000 square miles.

• This could be extended in modified form to an additional 7000 square miles.

• Superphosphate or rock phosphate together with leguminous crop and pasture species could correct the major soil deficiencies and allow the growing of a variety of cash crops, fodder, and improved pastures.

• High protein by-products from peanuts processed locally for oil, with high energy crop products such as grain sorghum and fodder crops, and improved pastures could mean a new intensified cattle industry in the area.

• Cattle fattened in these northern areas could be exported direct through Darwin.

• Drainages to the Timor Sea and the Gulf of Carpentaria were three times the combined flow of the Murray Valley and the whole of the south-east slopes of the continent.

• Irrigation projects could transform 500,000 acres of the basins of the Ord, Victoria, Fitzroy, Lennard, and other rivers into high-yielding irrigation land.

• The region included about 1000 square miles of potential rice-growing country.

Mr. Christian said that the estimated 500 million increase in population which would occur in countries north of Australia in the next 25 years would bring a market for all the area could produce.

"Australians can no longer hide behind the illusion that the north is unproductive", he said "This has now been thoroughly dispelled".



Mount Martyn

IN recognition of the services of Dr. D. F. Martyn, Officer-in-Charge of the Upper Atmosphere Section, as a member of the A.N.A.R.E. Executive Planning Committee, a mountain near the coast of Oates Land has been named "Mount Martyn".

Dr. Martyn is also Chairman of the Australian Academy of Science's National Committee for Antarctic Research.

Mount Martyn is nine miles south of the landing made by Mr. P. G. Law in February 1959, and is a prominent rock outcrop on the western edge of Pennell Glacier, Oates Land.

CANBERRA CREDIT UNION

THE third credit union within the C.S.I.R.O. was formed in Canberra recently under the name of Laboratories Co-operative Ltd.

THE new co-operative has grown rapidly in the two months from its inception to a membership of 27 with a capital of £150.

Staff at the Canberra Lab-

oratories have invested £875 and more money has been promised when required. Help has been given to thirteen staff members representing all groups in Canberra and a total of £1050 has been lent.

At the present time the scheme has more offers of funds on deposit than it can use. This state of affairs may be due, at least in part, to the conservative lending policy adopted at the first Board meeting.

Having no real idea of the availability of funds, and wishing to spread the benefits of the scheme as widely as possible, the Board decided that in the initial stages loans would be restricted to £100 to be repaid over 12 months.

To date this policy has been successful and the desirable

state of having virtually no idle cash has been maintained, while all requests for loans have been met.

Future trends in borrowing and investing will guide the Board in policy decisions. The existence of a reserve of investment money is heartening.

The scheme operates in a similar fashion to the two other groups in C.S.I.R.O.

Members must be permanent officers from Divisions and Sections based on Canberra.

Loans are well secured and interest is at the rate of 7½ per cent on a reducing quarterly balance. Deposits are accepted on a sliding scale of interest rising to 6 per cent on deposits for two years or more.

The Co-operative is interested in receiving enquiries from both borrowers and depositors.

£1500 Fellowship Offered

A PUBLIC company is offering an annual £1500 fellowship for a senior overseas scientist to work in Australia.

Dr. I. W. Wark, Director of the Chemical Research Laboratories, who is also Treasurer of the Australian Academy of Science, said the fellowships would be the first of their kind ever awarded in Australia.

For a long time scientists in many countries had wanted to carry out research here but had not been able to do so because there was no financial aid available.

"This desire among foreign scientists to work in Australia reflects the high reputation we enjoy overseas in the sciences", he said.

"I expect keen competition for the fellowships and hope other companies will come forward with similar offers."

For a Year

The fellowship is being offered by H. B. Selby Australia Ltd., importers and distributors of scientific apparatus.

Each fellowship will be for a year. The company also will pay fares to and from Australia.

The Academy of Science will award the fellowships and applications for the first fellowship will close on 1st November. Fellows will be able to work in any university or research organization.

N.A.T.A. at N.S.L.

MEMBERS of the Council of the National Association of Testing Authorities, Australia, visited the National Standards Laboratory on 10th September.

The visit covered an inspection of standards work in the Divisions of Electrotechnology, Metrology, and Physics.

The Association was established at the instance of C.S.I.R.O. to co-ordinate testing services in Australia.

It registers testing laboratories that meet its requirements in regard to quality of staff, equipment, and testing procedure. Registration indicates a laboratory's competence to carry out tests of the kind for which it is registered.

The Association requires its registered laboratories to have equipment calibrated against the Commonwealth standards of measurement maintained by the National Standards Laboratory.

PASTORAL TRUST

A NUMBER of prominent graziers have established a non-profit company known as the Australian Pastoral Research Trust to assist C.S.I.R.O. research for the pastoral industry.

The Trust expects to be able to give special help in providing experimental animals for pastoral research.

This should be particularly valuable in relation to grazing trials where animals are required only for short periods.

C.S.I.R.O. Team Misses Premiership

WITH the premiership in sight, the C.S.I.R.O. Melbourne football team was defeated in the Grand Final on 23rd August at Tooronga Oval.

C.S.I.R.O. won all five matches for the season, but lost by 14 points to the Dunlop team in the Grand Final. Scores were:

Dunlops 12 g. 15 b. = 87 pts.
C.S.I.R.O. 8 g. 23 b. = 71 pts.

The C.S.I.R.O. team is drawn from Head Office and the Melbourne Divisions.

It plays on Sunday afternoon in a social football competition of six teams drawn

from business houses and Commonwealth agencies.

This is the first year of the competition.

The Premier team holds a trophy for the next year. The trophy has been named the Sir Ian Clunies Ross Memorial Shield.

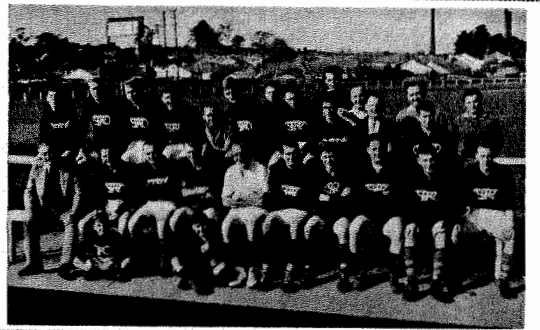
Meetings in U.S.S.R.

THE 5th International Congress of Biochemistry is to be held in Moscow from 10th to 16th August, 1961.

The U.S.S.R. Biochemical Society cordially invites every one interested in the broadest aspects of biochemistry to participate as an active member. Each active member is allowed to introduce any member of his family as an associate member.

An International Symposium on Macromolecular Chemistry will be held in Moscow, on 14th to 18th June, 1960.

This Symposium is sponsored by the Commission of Macromolecular Chemistry of the International Union of Pure and Applied Chemistry.



Dr. Bastow Recovering

IN the last few days Dr. Bastow has been well enough to leave hospital.

It is expected that it will be some time before he can return to the office.

Administration in C.S.I.R.O.

HOWARD P. HARRISON, a graduate in public administration of the University of Syracuse, spent some three years in Australia studying C.S.I.R.O. as a Fulbright scholar attached to the Australian National University.

Recently he received the Ph.D. degree for his thesis "Aspects of the Administration of C.S.I.R.O."

Dr. Harrison uses C.S.I.R.O. as an example to test the thesis that scientific research needs special treatment for its successful administration.

He concludes that there is a need for special arrangements outside the normal pattern of departmental administration and that the arrangements made by C.S.I.R.O. have in the main worked well.

His report gives a valuable historical picture of the development of C.S.I.R.O., tracing its evolution through the political and practical vicissitudes experienced by its predecessors — the Advisory Council of Science and Industry and the C.S.I.R.

It provides the only coordinated record of this early history.

C.S.I.R.O., as now constituted, came into being following considerable political debate over security and defence research.

This was an extremely interesting period in the history of science in Australia and Dr. Harrison is to be congratulated on his interesting and balanced account of the events that took place prior to the passing of the 1949 Act.

The major difficulty in examining Dr. Harrison's work now is that many aspects of the administration which he describes in detail and about which he makes suggestions for change have altered considerably since he wrote his thesis, some two and a half years ago.

His criticism of the administrative arrangements stems largely from his viewpoint as a "trained administrator".

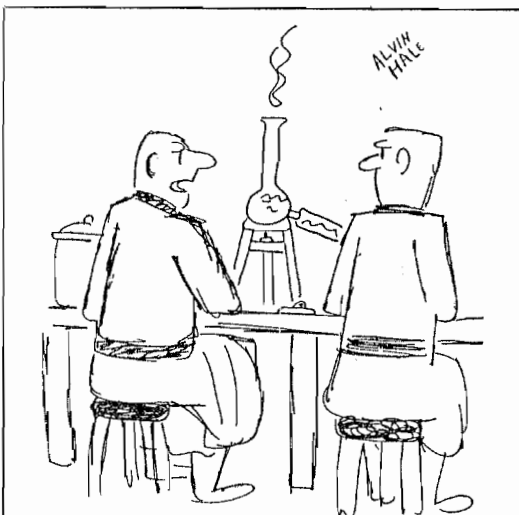
In C.S.I.R.O. the end point of all effort is scientific research and changes towards more "efficient" means of administration will not necessarily make the greatest contribution to the research programme.

Insufficient understanding is shown of the difficulties that arise due to the interaction in any organization of the personalities involved. In dealing with such problems experience

and leadership play a more significant part than administrative "correctness".

Dr. Harrison makes some interesting comment on salary scales and the way in which they operate.

Unfortunately much of the potential value of his suggestions in this field is lost because he has not been able to gain a sufficiently complete picture of what actually happens in practice.



"I've been on this project for 30 years and you're the first to ask if I know what I'm doing."

With grateful acknowledgment to "Chemical and Engineering News".

Life Insurance Plan Tops £1,000,000

SOME interesting statistics on the progress of the A.M.P. life insurance scheme for C.S.I.R.O. staff have been obtained from the A.M.P. Society.

ALMOST 400 proposals have been received for just under 2000 units and the total sum assured is substantially in excess of £1,000,000.

The age of the youngest applicant is 19 and the oldest is 58.

The main concentration of applications originates from the age group 30 to 40.

Many officers already have other types of insurance and may feel that they have no need for additional cover under this plan. However the A.M.P. has provided the following example to illustrate the most common circumstance in which both classes of insurance may be used to advantage.

A young officer is in the process of paying off his home. As yet he has not been able to build up any capital reserves. He has at least four problems which can be solved by means of life assurance.

- How to ensure that the mortgage on his home will be repaid in the event of his death.

- How to provide an income for his wife in the event of his early death.

- How to provide for the education, possibly to University standard, of his children.

- How to ensure that, whenever his death occurs, there will be sufficient cash available to pay the duty on his estate (which in his later years could be quite substantial).

The Life Insurance Plan for C.S.I.R.O. staff which provides a decreasing type of cover can

answer the first problem and in addition supply the capital by which a small income may be derived (second problem).

Further income can be provided, and the other problems solved, by means of whole life or endowment assurance.

Japanese Visitor

MR. HISASHI HARADA, Director of the Secretariat of the Japanese Science and Technics Agency, recently spent a week in Australia.

The Japanese Science and Technics agency has certain features in common with C.S.I.R.O.

Mr. Harada, an electrical engineering graduate from Tokyo, had a distinguished career in the Japanese Patents Office before taking up his present position.

Most of his time here was spent with C.S.I.R.O. In Melbourne, he discussed the interchange of scientific information between Japan and Australia with the Chief Librarian, Miss Doubleday.

He also visited the Division of Chemical Physics and the University of Melbourne.

In Canberra, Mr. Harada discussed the interchange of scientific personnel with officers of the Department of External Affairs. He also visited the Patents Office.

In Sydney, Mr. Harada spent some time seeing the work of the Division of Electrotechnology.

TO WORK IN AMERICA

Dr. C. C. J. Culvenor, of the Organic Chemistry Section, Chemical Research Laboratories, left last month for America.

He will spend a year at the University of California working in the laboratory of Professor Geissman, who completed a twelve-month visit to Australia recently.

Dr. Culvenor, whose research is concerned with liver-damaging alkaloids, will visit various laboratories on the east coast of U.S.A., including those of the pharmaceutical companies Eli Lilly & Co., and Smith, Kline & French Laboratories.

Mr. R. I. Sommerville, of the Division of Animal Health and Production, left recently for America on a C.S.I.R.O. overseas studentship. He will study the culture of nematode parasites *in vitro* with Dr. Paul Weinstein at the National Institute of Allergy and Infectious Diseases at Bethesda, Maryland.

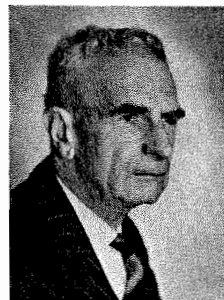
Mr. H. M. Radford, of the Parkville laboratory, Division of Animal Health and Production, sailed for America a month ago. He will spend a year at the Medical Research Centre of the University of California, Los Angeles.

On his return to Australia, Mr. Radford will transfer to the staff of the Sheep Biology Laboratory, Prospect, N.S.W.

SCIENTIST'S ART

DR. L. B. Bull, the former Chief of the Division of Animal Health and Production, who is still working vigorously at the Animal Health Research Laboratory, Parkville, on a research fellowship, has made a name for himself as a water colour artist.

Dr. Bull used to do a good deal of sketching in his younger days but pressure of work forced him to give up his hobby.



Dr. L. B. BULL

Now in his retirement he is painting again and producing some notable landscapes.

Current notes on art shows in the Melbourne "Age" report the Spring Exhibition of the Victorian Artists' Society.

The art critic states: "Water colours by Len Annois, Donald F. Campbell, L. B. Bull and Robert Miller lead a good display in this medium."

Dr. Bull's entry in the exhibition is a landscape entitled "Riverina". Modestly he has omitted to indicate its price.

U.S. TRAVEL

RESTRICTIONS on the use of dollar currency have recently been eased considerably.

One consequence is the removal of the 30-day limit for visits to North America which was imposed during the extreme dollar shortage.

In future the normal rates of travelling allowance will be \$22.50 per day for senior officers and \$20.00 per day for others.

Mr. A. G. Constantine has been appointed to an Assistant-Instructorship at Yale University for one year. He is an officer of the Division of Mathematical Statistics.

Mr. R. F. Powning, of the Division of Entomology, has been granted a fellowship to spend a year at Rutgers University, New Jersey. He will work with Professor Nickerson on the digestion of keratin by bacteria and by insects.

Mr. Powning, who will be accompanied by his wife and children, will return to Australia via Europe.

Computer Use

A SYMPOSIUM on C.S.I.R.O. Computer Utilization was held at Sydney University on 2nd September.

The theme was a survey of available computer services in Sydney, with an emphasis on the availability of complete programmes and of simplified coding schemes.

Designed for those people who had little or no experience with computers, the symposium attracted an audience of about sixty, mostly drawn from C.S.I.R.O. Divisions in the Sydney area.

The Organizing Committee comprised Mrs. N. Carter (Animal Health), Dr. A. Fraser (Animal Genetics), and Dr. D. W. Posener (Electrotechnology).

Notes on the symposium proceedings have been circulated to the principal C.S.I.R.O. libraries.

IMPORTATIONS

OVER the past five years C.S.I.R.O. appointed about 60 new research officers each year. Some of these were replacements for others who had resigned or retired, but about half the appointments were to new positions.

During this period there was a steady increase in the percentage of research officers recruited from overseas.

1954/55	24%
1955/56	30%
1956/57	38%
1957/58	54%
1958/59	60%

German Scholarships

THE Alexander von Humboldt Stiftung Foundation awards scholarships for post-graduate studies at universities and research institutes in the Federal Republic of Germany and in West Berlin.

The conditions applying to a scholarship are:—

- The scholarships are given to highly qualified foreign scholars who have already completed studies at an institution of higher learning.

- Applicants should have an adequate command of the German language.

- Applicants should not be older than 35 years and cannot be accompanied by their dependents.

- The scholarships provide an amount of DM600 per month. (This amount is sufficient to cover the cost of living for one person.)

- The scholarships are awarded in general for one academic year (a period of ten months beginning on 1st October). The scholarship may be extended for a second 10 month period.

- For persons living outside Germany application forms may be obtained each year in September and October through German Consulates. Applications filed at that time will be valid for a scholarship for the academic year beginning in autumn the following year.

Printed by C.S.I.R.O., Melbourne

Visco-elasticity

AN informal symposium on visco-elastic systems will be held on 16th to 18th February, 1960, at the Division of Forest Products, Melbourne.

Scientists and engineers from Universities and from public and industrial laboratories have been invited to present papers and to take part in discussions. The proceedings will not be published.

Papers on the following subjects have so far been offered:

Moisture changes influencing creep in wood (Armstrong); high temperature behaviour of certain metals (Axelrad); glazing compounds (Ballantyne); gypsum plaster (Blakey); review of creep in concrete (Blakey); incipient bonding in a draining fibre pad (de Yong and Higgins); thixotropy, dilatancy and elasticity in fluid colloidal systems (Dintenfuss); hydroplasticity of wool (Fouhman); Weissenberg's equation of state (Grossman); hydrogen-bonded materials (Higgins); collapse in wood-cells (Kauman); wood at high stress levels (Kingston); a microviscometer for the study of bitumen (Martin); fracture patterns in paper (McKenzie); variable diffusion coefficients in wool (Nordon); rate processes (Rigby); cereal protein monolayers (Tschoegl).

Anyone wishing to take part or to obtain further details is invited to write to Dr. P. U. A. Grossman, Division of Forest Products, C.S.I.R.O., P.O. Box 18, South Melbourne, S.C.S. Victoria.

OPEN DAY AT DENILIKUIN FIELD STATION

"AGRICULTURE in southern Australia has a long way to go" Dr. O. H. Frankel, Chief of the Division of Plant Industry, said recently.

"THERE are many areas which have a high potential for agricultural production where the major capital investment in roads and community services has already been made. They should be developed in our lifetime."

Dr. Frankel was addressing some 400 visitors to the Open Day held at the Falkner Memorial Field Station, Deniliquin, on 14th October.

Mr. L. F. Myers, Officer in Charge of the Regional Pastoral Laboratory at Deniliquin, told the visitors that recent research on the use of gypsum in irrigation water opened up the possibility of rapidly establishing improved pastures under irrigation on the difficult heavy clay soils of the Riverina.

These results were particularly important because much of a further 1,800,000 acre feet of water to come to the Riverina from the Snowy scheme could be used to irrigate these soils.

Fine sunny weather and good organization by the administrative and station staff and the Agricultural Research Liaison Section ensured that the Open Day went off without a hitch.

Demonstrations were located at three different sites on the 7500 acre property.

At the first stop, station manager, Mr. Geoff Wright introduced to the audience Messrs. J. L. Davidson and R. H. Sedgley, who explained the overall problem of establishing irrigated pastures in the Riverina, and something of the scientific background to their research.

Society and the Space Age

THE Australian Broadcasting Commission will embark on a new enterprise this month with a special series of talks based on the plan of the B.B.C. Reith Lectures.

The 1959 series will be delivered by Dr. D. F. Martyn, Officer-in-Charge of the Upper Atmosphere Section.

The theme of his lectures will be "Society and the Space Age".

The first talk "World Inherited" will be broadcast over national stations on Tuesday, November 3rd, at 8 p.m.

The other three lectures, entitled "World in Transformation", "Other Worlds" and "World of Tomorrow" will follow on successive Tuesdays.

Dr. Martyn will discuss the ability of the human race to adapt itself to the changes in environment it has created. He will talk about the "population bomb"—one of the most crucial problems facing mankind.

He will also discuss the possibility of men migrating to other planets, and some of the difficulties facing space travellers.

At the second stop, visitors saw plots of land which had been irrigated with and without gypsum, and were able to see the dramatically superior early pasture establishment where gypsum had been used.

Lunch was served to the visitors from a large marquee. During the long lunch break visitors saw a machine for dissolving gypsum in irrigation water. This machine was designed by officers of the Chemical Engineering Section of the Chemical Research Laboratories in Melbourne.

Farmers also discussed projects with members of the research staff. Miss Veronica Rogers, plant geneticist at the laboratory, showed visitors a stand of a recently introduced strain of lucerne called Hairy Peruvian which appears to be superior to other varieties.

Mr. C. Kleinig told farmers of the effect of chemical fertilizers on the clay soils.

At the third stop, after lunch, Mr. Myers demonstrated how early irrigation in the autumn increased winter carrying capacity of pastures to a pronounced degree.

Other demonstrations were seen by the visitors en route from stop to stop, but time did not permit all the experiments on the Station to be shown in a day.



Messrs. R. H. Sedgley and L. F. Myers (Deniliquin), J. H. E. Mackay (Plant Industry, Canberra) and D. F. Kelsall (Chemical Research Laboratories) at the Open Day.

Mr. J. L. Davidson explaining the effects of gypsum treatment on irrigated pastures.



END OF THE SECTION

PROFESSOR DAVID MYERS, Officer-in-Charge of the Mathematical Instruments Section, has resigned his Chair of Electrical Engineering in the University of Sydney. He will take up a Professorship in the University of British Columbia next year.

PROFESSOR MYERS has been closely associated with C.S.I.R.O. for twenty years. He was the first Chief of the Division of Electrotechnology when the National Standards Laboratory was established just before the war.

Since resigning from the Organization to take up his Chair at Sydney in 1949, he has acted in a part-time capacity as

Officer-in-Charge of the small Mathematical Instruments Section.

The Section will now be closed down. A differential analyser belonging to it has been loaned to the University of Tasmania. Various other items of equipment are being disposed of to the University and to other C.S.I.R.O. groups.

NEW ACT CREATES LARGER EXECUTIVE

THE MEMBERSHIP of the Executive of C.S.I.R.O. is to be increased from five to nine.

UNDER the Science and Industry Research Bill at present before Parliament, the 1949 Act creating C.S.I.R.O. is to be amended.

The new Bill provides for five full-time members of the Executive, and four part-time members.

At least five members of the Executive must be scientists.

In the second reading speech to the House of Representatives last week, the Acting Minister-in-Charge of C.S.I.R.O. said:

"The C.S.I.R.O. as the Commonwealth's principal agency for scientific and industrial research has a most impressive record of achievement in the form of research results which have benefited the agriculture and industry of this country."

"The Science and Industry Research Act 1949 vests the control of the C.S.I.R.O. in an executive of five persons, three of whom give their full time to the duties of their office and three of whom must be scientists."

"With growing diversity of the activities of C.S.I.R.O., it has become clear that an Executive of five is too small for the task it has to shoulder."

"The extent of the additional load which the Executive is now carrying may be gauged from the fact that the Organization's budget has grown from £2 million in 1949 when the present Act was passed, to more than £7½ million in the current year."

"The Bill I am now introducing makes provision for amending the Act to increase the membership of the Executive from five to nine."

"This change would permit the Executive to act more effectively in discharging its important responsibilities in guiding the destinies of this important Organization."

Another Journal

THERE is to be a new scientific journal called the Australian Journal of Experimental Agriculture and Animal Husbandry.

The journal will be published by the Australian Institute of Agricultural Science on behalf of the Australian Agricultural Council.

It will publish the results of studies, ranging from major investigations to relatively minor field and laboratory experiments, in relation to plant and animal studies.

Progress results of particular interest and novel methods and techniques may be published as short communications.

It will not publish review articles.

It is expected that an editor for the journal will be appointed in March, 1960, and that the first issue of the journal will appear in February, 1961.



Prof. D. M. MYERS

House of Representatives Debates Our Estimates

ON TUESDAY, 6th October, the House of Representatives debated the estimates of the Department of National Development, C.S.I.R.O., and the Australian Atomic Energy Commission.

ONLY A HANDFUL of members felt constrained to discuss C.S.I.R.O. The following excerpts from "Hansard" record some of the comments of the honourable members.

Mr. McIvor (Gellibrand, Labour)

"In my opinion, there is a need for a bold plan for transport co-ordination in respect of road, rail, air, and sea communication.

"In fact, it is my opinion that the economy of this country demands such a plan of co-ordination. Insofar as sea, rail, and air transport are concerned, the routes are clearly defined. Unfortunately the same cannot be said about roads.

"We read much about great mineral wealth in the north. We read with interest the statements of Mr. Christian regarding the potential or Arnhem Land and the Northern Territory, in particular, for

cattle-raising, mining, and agriculture.

"Arising out of all his splendid information about the vast resources of our nation perhaps the most salient point is the lack of communications and transport facilities. I would say that is the most important feature of the issue."

Mr. Barnes (McPherson, C.P.)

"I wish to confine my remarks to the estimate for the Commonwealth Scientific and Industrial Research Organization and to speak particularly

about research on the cattle tick.

"Most honourable members will probably have seen the most interesting report issued by the Bureau of Agricultural Economics on the losses caused in Australia by this parasite.

"In that report, it is estimated that the annual loss is £10,000,000. After a very long experience in the cattle industry in north Queensland, I suggest that the estimate is most conservative.

"Another problem is created by the red-water disease, which is spread by the tick.

"We know very little about this disease, but to some extent it can be controlled by inoculation. However, we have still much to learn about it.

"For instance, cattle which are immune in one area may die of red-water when transferred to another area. Until we can afford ample protection by inoculation or other means, we cannot commence eradication schemes in Queensland.

"I am sure that honourable members will agree that the expenditure of only £50,000 a year for research by the C.S.I.R.O. into the parasite and £5,000 or £10,000 a year for research into red-water disease is ridiculously inadequate.

"In view of the splendid reputation of the C.S.I.R.O. and the savings of hundreds of millions of pounds as a result of its research into our problems, I feel that this Government is duty bound to see that the estimates for the C.S.I.R.O. are increased so that ample funds will be available for this organization to undertake adequate research into tick control."

Mr. Whitlam (Werriwa, Labour)

"The Commonwealth Scientific and Industrial Research Organization has already done a magnificent job in developing our agricultural and pastoral potential.

"It is regrettable that the pressure on the C.S.I.R.O. and other Government agencies to develop the tropics is inevitably less intense than the pressure on them to deal with the problems of the already well-developed temperate zones.

"But we are reaching the end of the economic capacity of our temperate areas to produce agricultural and pastoral products, such as crops of various types, and butter and cheese, for the European market.

"We have, however, merely tapped the potential of our tropical areas to cater for Asia.

"I hope that, as a result of the comments made by honourable members, C.S.I.R.O. will be encouraged to devote an increasing proportion of its resources to investigating and developing our tropical potential."

Mr. Murray (Herbert, Liberal)

"We are very short of research workers. Private enterprise is allowed to compete far too freely with the Commonwealth Scientific and Industrial Research Organization and other research organizations. This should be stopped, and we should make it far more difficult for that sort of thing to occur.

"It would be impossible to calculate the good that the C.S.I.R.O. has done and the contribution that it has made to our national wealth. This remarkable organization is showing us more clearly every day just how great is our potential and how clearly inadequate our resources are to

deal with it. Yet we find the C.S.I.R.O. handicapped by lack of money and shortage of research workers. It cannot be expected to get on with some of the research programmes which are so urgent."

Mr. Bury (Wentworth, Liberal)

"I rise to address myself to the estimates for the Commonwealth Scientific and Industrial Research Organization.

"In doing so I should like to begin by paying a tribute to the late Sir Ian Clunies Ross, in whose death we lost a great Australian. His own scientific contributions were mainly in the veterinary field, both on the purely academic side and later as Director of the McMaster Animal Health Laboratory.

"He later served as Director of Scientific Manpower and as adviser on the pastoral industry in the Department of War Organization of Industry during the war. He was also a member of the International Wool Secretariat.

"Later still he made his great contribution to the C.S.I.R.O. He was a rare combination of scientist, great administrator, and great human being. He was one of the few scientists who are competent to speak on social and political problems.

"Many eminent scientists use their great names to talk in those spheres about which they know very little, and they talk a great deal of nonsense, but Sir Ian Clunies Ross made worthy contributions in many fields, amongst his offices being the presidency of the Institute of International Affairs.

"It is noteworthy that this year the estimated expenditure of the C.S.I.R.O. is £6,700,000—an increase of £700,000 over last year. I am sure that that expenditure will be warmly supported from every quarter of this chamber.

"The only real limitation on further expansion of this body is not funds but lack of trained scientists to carry out investigations.

"Much more could be done than is being done to increase the supply of scientists and those who are studying science as undergraduates at the universities.

"I have been in correspondence with the Minister-in-Charge of the C.S.I.R.O. (Mr. Casey), who unfortunately is also a very busy Minister for External Affairs. He is often away from the country and the result is that the Organization does not always receive the political attention that it deserves.

"If we are to have a proper supply of scientists, bodies such as the C.S.I.R.O. should sponsor their training.

"The C.S.I.R.O. has entered the field by assisting graduates to more advanced studies, but if the flow of trained scientists is to be adequate we must start off at the very beginning of university education.

"Whatever may be the merits or demerits of such a scheme, there is no alternative if we are to have the scientists we need. If we are to adopt that kind of approach, we shall need a ministry of science or a minister who devotes a great deal of time to science.

"I have read reports recently stating that both major parties in the current United Kingdom election are proposing, if returned to power, to establish a minister and ministry of science. I suggest that we should do the same in this country."

REPORT ON RAINMAKING

PROFESSOR Roscoe R. Braham Jr. arrived in Sydney last week to spend four weeks in Australia. He is here at the joint invitation of C.S.I.R.O. and the Snowy Mountains Authority.

Professor Braham is from the Department of Meteorology, University of Chicago.

The Division of Radiophysics has been carrying out an extensive experiment over the Snowy Mountains area to test the possibility of increasing the precipitation of rainfall over the catchment areas by the seeding of clouds from aircraft.

This experiment has been done in close co-operation with the Snowy Mountains Authority which has covered the cost of the flying operations and supplied a great deal of technical assistance.

The experiment has been under way for four years and the Division and the Authority are at present writing the technical description of the experiment and of the results achieved.

Although it is difficult to achieve an unequivocal scientific answer in an experiment of this kind, the Division feels that it now has sufficient information to give a definite answer.

It is important, however, that no doubt should exist as to the results of the experiment.

Professor Braham has been invited by C.S.I.R.O. and the Authority to make an independent assessment of the experiment, particularly from a statistical point of view.



Professor Braham being welcomed at Mascot by Dr. E. G. Bowen, Chief of the Division of Radiophysics. Also in the picture are Messrs. Heffernan (Radiophysics), Worrall (S.M.A.), Bethwaite and Smith (Radiophysics).

Superannuation Increases

ON THE 30th September, the Prime Minister (Mr. Menzies) gave details of the increases in superannuation benefits which were foreshadowed in the Treasurer's Budget Speech. Mr. Menzies said—

"THERE is no intention of increasing the present value of superannuation units. The legislation to give effect to the Government's proposals is now being drafted and will be introduced as soon as possible. The major changes in benefits are—

(a) An increase in the maxi-

mum pension to £2,457 per annum representing an increase in the scale of unit entitlement from 36 to 54. New entrants will be entitled to contribute for the increased maximum pension only if their service to retirement will extend over twenty years.

(b) An increase in the number of reserve units from 4 to 8.

(c) Provision, on a contributory basis for a widows pension of five-eighths the male pension.

(d) In respect of all existing superannuation pensions the widows pension will be raised to five-eighths of the male pension.

Control Engineer

Dr. John Coales, Reader in Engineering at the University of Cambridge, plans to visit Australia early in 1960.

Dr. Coales is in charge of Control Engineering work at Cambridge.

He will give a number of lectures to various university groups and to the Society of Instrument Technology.

Dr. Coales will visit the National Standards Laboratory and the Engineering Section of C.S.I.R.O.

It is hoped that he will also pay brief visits to the Chemical Research Laboratories and Wool Research Laboratories.

BROADCAST

Mr. J. S. Hynd, the Division of Fisheries and Oceanography Officer stationed at Thursday Island, will be interviewed on the Country Hour (A.B.C.) at 12.48 p.m. on Monday, November 30th. He will discuss his pearl shell investigations.

FOOD LABORATORY

WORK has begun on the erection of the new central laboratories for the Division of Food Preservation and Transport at North Ryde, a suburb of Sydney about 6 miles north-west of the city.

It is expected that the buildings, which will provide 71,000 sq. ft. of floor space, will be ready for occupation in about 2 years.

There will be two large laboratory blocks each of two storeys, the smaller being devoted to research on the processing of foods.

A block of constant-temperature rooms, providing temperatures from 20 to 100°F., will be integrated with the larger block.

Separate single-storey buildings will house administrative staff and library, meeting room, dining and taste-test room, boiler house, workshops and stores, and factory space for food processing.

Computers to Meet

THE Australian National Committee on Computation and Automatic Control has announced a Conference on "Automatic Computing and Data Processing in Australia" to be held on 24th to 27th May, 1960, at the University of Sydney and the University of New South Wales.

This Committee was recently formed as an association of professional societies interested in the use of automatic computing machinery. Its purpose is to assist in disseminating knowledge about this rapidly developing science. The Conference will bring together those actively engaged in computing in Australia, to report their current activity and discuss related topics.

Papers are invited for consideration in the following broad fields: Commercial Data Processing; Construction and Logical Design (including Analogue Computers); Scientific and Engineering Computation; Scientific and Engineering Data Processing Techniques;

Eye on the Ball

MESSRS. G. Carter (Radio-Physics), W. Smyth (Physics), T. C. Clark (Administrative Office), C. Clarke and T. Brennan (N.S.W. Workshops) represented C.S.I.R.O. recently in the N.S.W. Public Service Golf Championships.

It was a successful day. Gordon Carter won the "B" grade Championship and Claude Clarke won the "C" grade Championship.

A field of 140 players competed from Commonwealth and State Departments in New South Wales.

This was the first occasion on which C.S.I.R.O. has entered a team in the competition.

PRIZE PAPER

Mr. M. C. McGregor, of the Division of Electrotechnology, spent six months at the National Bureau of Standards in America during 1957-58.

During his stay, he published, with some American colleagues, a paper about apparatus for absolute capacitance measurements.

He learned recently that the paper was a prize winner in a Prize Paper competition of the American Institute of Electrical Engineers.

Grasshopper Expert

Dr. B. P. Uvarov, C.M.G., F.R.S., until recently Director of the Anti-Locust Research Centre in London, will arrive in Sydney by air on 2nd November.

After nearly a week with the C.S.I.R.O. Division of Entomology in Canberra, he will confer with entomologists in several of the states, returning to England on 2nd December. Dr. Uvarov is the leading world authority on the biology

and Equipment offering in Australia.

Those interested in presenting a paper at the Conference are asked to submit, as soon as possible, a title and brief statement describing the classification under which the paper should fall. A summary (approximately 200 words) must be submitted by 1st February, 1960.

Inquiries may be made at any time to C. H. D. Harper, Secretary, Australian National Committee on Computation and Automatic Control, C/-The Institution of Engineers, Australia, 157 Gloucester Street, Sydney.

LIGHT CONCRETE FLOOR SLABS

THE DIVISION of Building Research has played a major part during the past nine years in introducing lightweight aggregates to Australia.

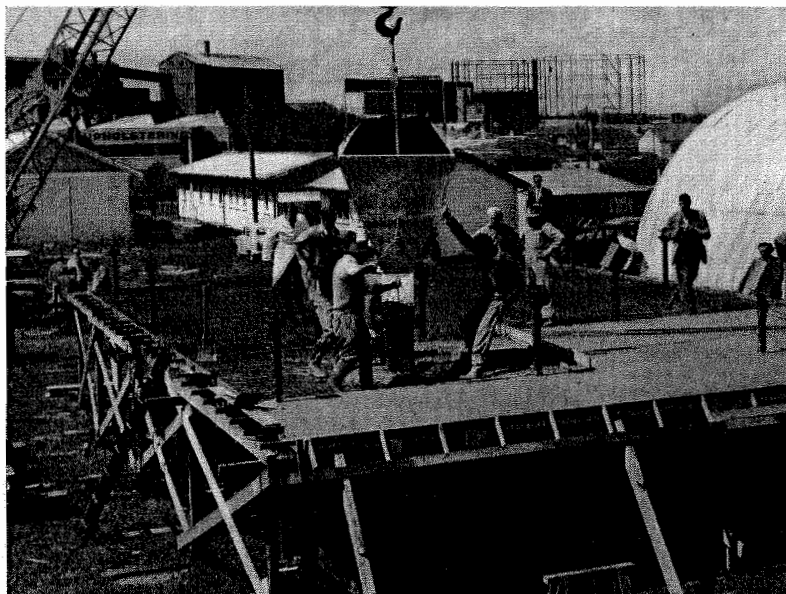
IN PARTICULAR, much work has been done on the use of expanded clay and shale aggregates for lightweight structural concrete and a project is now in hand for a study of the performance of lightweight concrete floor slabs.

Flat plate structures, in which the concrete floor slabs are connected directly to the supporting columns, are now being increasingly used for multi-storey buildings.

By avoiding the need for complicated and expensive formwork through the use of simple structural shapes, they allow building costs to be cut. They also give flat, uniform-height ceilings.

To obtain information on the behaviour of these structures under live load and simulated

Pouring the slab at the Division of Building Research, Highett.



wind load a one-third scale model of one storey of a flat plate structure made with expanded shale concrete has been erected in the grounds of the Division.

The slab is 48 feet long, 27 feet wide and 3½ inches thick, and is supported by sixteen slender steel columns 5 feet high.

This project represents a very gratifying example of co-operation from many parts of the building industry.

The slab structure was erected by Messrs. Hansen and Yuncen Pty. Ltd., using Rapid Metal Formwork.

The concrete was supplied by Ready Mixed Concrete Pty. Ltd. with expanded shale aggregate from Reid's Lightweight Aggregate Pty. Ltd. Reinforcement and bar chairs were supplied by the ARC Engineering Co. Pty. Ltd., and the Cyclone Co. of Aust. Ltd.

Other contributions were received from Humes Ltd. and the Victorian Housing Commission.

In the planning and instrumentation of the structure there has been close co-operation with the Civil Engineering Department of the Melbourne University and the Aeronautical Research Laboratories of the Department of Supply.

Summer School

PROFESSOR H. S. Scheraga, of the Department of Chemistry, Cornell University, will arrive in Australia at the end of this month.

He has been invited to Australia by the Division of Protein Chemistry of the Wool Research Laboratories.

Professor Scheraga, who has made outstanding contributions to the physical chemistry of proteins, will be Guest Lecturer at a Summer School on Protein Structure to be held in Melbourne in early December.

TO PAKISTAN

MR. F. G. NICHOLLS, Research Secretary, is leaving Australia early this month on a 6 to 8 week visit to Pakistan.

The President of Pakistan has established a 14-man Scientific Commission to examine all matters relating to the promotion and co-ordination of scientific research in Pakistan, the utilization of research results and making scientific careers more attractive.



Mr. F. G. NICHOLLS

Mr. Nicholls has been invited to sit with the Commission as one of three scientists from Colombo Plan countries.

The Commission expects to start its work in Karachi on 15th November. It will visit research laboratories and institutions in Pakistan before making its report.

APPOINTMENTS TO STAFF

Mr. R. E. Churchward has been appointed Veterinary Liaison Officer in the Agricultural Research Liaison Section. For the last 13 years he has been in private practice as a veterinarian in Lismore, N.S.W., and was Mayor of that city for three years.

Dr. H. D. Barrs, a Nottingham graduate, will arrive in Australia this month to take

up appointment with the Division of Land Research and Regional Survey. Before coming to Australia he paid visits to research establishments in Kenya and Uganda.

Dr. W. F. Forbes has joined the staff of the Division of Protein Chemistry. After taking his Ph.D. degree in London in 1952, he went to Canada, where he became Associate Professor, and later Professor of Chemistry in the University of Newfoundland. He travelled to Australia via England and the Continent.

Dr. J. Giovanelli has joined the staff of the Plant Physiology Unit, Division of Food Preservation and Transport. He left Australia in 1953 for California, where he took a Ph.D. degree in 1957. For the last two years he has held a post-doctoral fellowship at the McCollum Pratt Institute, John Hopkins University.

Mr. H. Hirst is en route to Australia to take up his

appointment as Director of the Kimberley Research Station. Mr. Hirst, an Englishman, is a diplomate of Leeds and Cambridge, and took a master's degree at Minnesota. He has spent many years in the Colonial service in Malta and Cyprus. Before taking up his new post he was Deputy Director of Agriculture in Cyprus.

Mr. Thiruvankata Krishnan, an Indian citizen, is a graduate of the Universities of Madras and Cambridge. He came to Australia under the Colombo Plan, but has now accepted a twelve-month appointment as Research Officer in the Division of Radiophysics.

Mr. E. O'Neill has been appointed to the staff of the Division of Plant Industry. He will take charge of the engineering services of the phytotron and will act as liaison officer with the Engineering Section during the phytotron's development period.

Geelong Grammar Bursaries

SOME years ago the Council of the Geelong Church of England Grammar School generously offered two bursaries, of an annual value of two-thirds of the total fees, to sons of members of the C.S.I.R.O.

As one bursary is falling vacant at the end of 1959, the Executive invites applications from Officers for a bursary on behalf of their sons, to commence in 1960.

The selection of suitable boys has been left to the Executive. The school normally does not want boys after the February of the year in which they become 14 or before the

year in which they become 11, but has pointed out that there may be some cases whom it might suit to send for their last two or three years at school, i.e. to do Leaving Certificate and Matriculation.

DOCTORATE

DR. N. A. WALKER, of the Division of Plant Industry, has received the degree of Ph.D. from the University of Tasmania. During the tenure of a C.S.I.R.O. studentship he studied in the Biophysics laboratory of the University under Professor A. L. McAuley.

HONOURS

Dr. O. H. Frankel, Chief of the Division of Plant Industry, has been elected to the Council of the Australian National University.

Dr. Frankel and Mr. A. J. Vasey, Divisional Secretary of the Division of Animal Health and Production, were last month elected Fellows of the Australian Institute of Agricultural Science.

Mr. A. F. A. Harper (Division of Physics) has been elected President of the Royal Society of New South Wales.

Dr. D. Martin, Officer-in-Charge of the Tasmanian Regional Laboratory at Hobart has been elected Vice-President of the Royal Society of Tasmania.

and control of locusts and grasshoppers.

A Russian by birth, he settled in England after the first world war and proceeded to organize fundamental investigations on locusts and grasshoppers, the most serious pests of agriculture in the British Colonial territories and many other countries.

The knowledge gained under his inspiration has transformed the prospects of effective locust control, not only in the regions with which he has been principally concerned, but also in countries such as Australia, where similar investigations have been in progress.

Thai Timber Man

MR. SAMRUAN PUKKANANON has arrived in Australia to spend three months with the Division of Forest Products. He is an executive of a timber company in Thailand.

Mr. Samruan, who is here under the Colombo Plan, will be trained in the techniques of commercial timber preservation.

The Good Oil

(A secondhand account of what actually happened to an officer of the Division of Tribophysics about three weeks ago.)

"Good morning" said the voice at the other end of the telephone, "are you Dr. Jones?" I admitted it.

"My name" said he, "is Burgess, neurosurgeon". "Having trouble with my drill, and need some help."

In my most solicitous manner I assured him that the Division of Tribophysics was at his service, and what was the matter with his drill?

"Well," he explained, "actually it's a thing like a dentist's drill, except that I use it for boring holes in the brain. Before I use it, I have to sterilize it in hot air for an hour. Yesterday, at a crucial stage of the operation, the thing gummed up. Think it's a lubrication problem."

"Oxidation," I mused to myself. "The lubricating oil is being oxidized during the hot air sterilization."

"I think I can help you there," I said importantly. "I can let you have a small quantity of our special KXP-1493B oil which will solve your problem."

"Be most grateful," said the voice, obviously impressed. Could you get someone to shoot some over to my clinic at the Royal Fitzroy Hospital? I'm operating again later this morning." I assured him that he would have it within the hour and hung up.

"Oh, no," said the typist ten minutes later, "the truck and the car are both out. They won't be back till after lunch."

I collected my little bottle, and requisitioned a tram fare from petty cash. I was received at the clinic by a wide-eyed nursing rhythmically masticating gum.

"Mr. Burgess" she stated firmly "is operating, but wants to see you anyhow. Will you come this way?"

Five minutes later, duly robed in the mystical garments of the medical profession, I was ushered into the theatre. Four figures like Ku Klux Klansmen were peering intently at a body on the table. One of them armed with an electric circular saw, seemed to be cutting off the ear of the patient who, innocent of hair, bore a remarkable resemblance to Yul Brynner.

"Dr. Jones" announced the diminutive figure beside me, in a loud voice.

"Ah, Jones" said the masked figure with the saw, "be with you in a minute." He bent again to his work. Presently the buzz of the saw stopped, and the figures straightened up. One of them picked up some tweezers, and folded back a piece of bone rather larger than a penny. I gazed fascinated at the surface of the poor devil's brain.

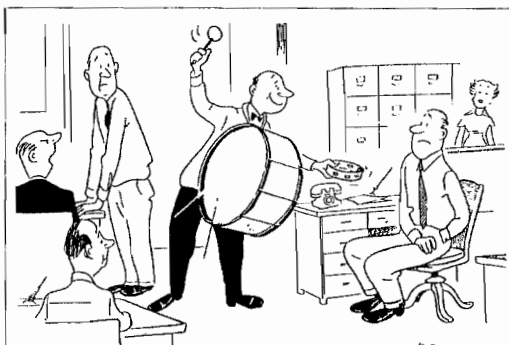
"Dr. Jones" said my host "this is Dr. Essex, Mr. Higgins, and Dr. Poynter." We all said how-do-you-do and Mr. Higgins commented that it looked like a fine week-end.

"You're just in time" said Burgess cheerfully. "Can you lubricate this thing now?" I took up an eye dropper and, after a great deal of manipulating, managed to introduce two drops of KXP-1493B in to the bearing. The medicos were delighted, and proceeded to discuss with me the value of C.S.I.R.O. to the national economy and what sort of oil they used in their cars.

"I was there for half an hour" I told my wife that evening, "while that unfortunate patient lay gasping like a fish on a slab, with his brain open to the breeze."

My wife, like all women, was more interested in medical doctors than mere Ph.D.'s. She knew all about Burgess, who had performed a frontal lobotomy on a friend's father. "What does he look like?" she asked.

I thought of the voice on the phone, and the masked figure in the theatre. "I've no idea" I confessed sadly.



"Stan makes a big thing of an office collection, doesn't he?"

With grateful acknowledgement to "Office Economist".

To Work in U.K.

Mr. R. Milford, of the Division of Tropical Pastures, recently arrived in England to take up an overseas studentship. He will spend two years at the Grassland Research Institute, Hurley. In July, 1960, he will attend the International Grassland Conference at Reading.

Mr. D. C. Shaw, of the Division of Textile Industry, also arrived in England recently. He has been awarded a Hackett studentship by the University of Western Australia, and will spend two years with Dr. Sanger in the Biochemistry Department, University of Cambridge.

Mr. J. B. Davenport, of the Division of Food Preservation and Transport, left last month for the United Kingdom, on an overseas studentship. He will study phospholipid metabolism at the Institute of Animal Physiology, Babraham, Cambridge.

Pastures

SIXTY specialists, representing many branches of science, met last month in the Academy of Science Building, Canberra for a series of discussions on pasture.

The conference was organized by Dr. N. P. Kefford of the Division of Plant Industry. Dr. O. H. Frankel, (Chief, Plant Industry) and Dr. A. T. Dick (Animal Health, Melbourne) each chaired a session.

Among the speakers were Dr. I. W. McDonald and Dr. R. L. Reid (Prospect), Dr. M. C. Franklin (McMaster Laboratory), Professor G. L. McClymont (University of New England) and Messrs. W. M. Willoughby, C. H. Williams and A. B. Costin (Plant Industry).

PLASTER GRANT

THREE years ago the main producers of plaster of paris in Australia decided to contribute £2,500 per annum to endow a programme of work at the Division of Building Research.

Two research officers were appointed to carry out research on fibrous plaster and plaster of paris.

Now the manufacturers have decided to increase their grant to £4,000 per annum. This increased grant will enable the Division to expand the scope of its plaster work.

Symposium on Nitrogen

A SYMPOSIUM on "Nitrogen" will be held in the Meeting Room of the Cunningham Laboratory at Brisbane on 23rd and 24th February next year.

The symposium is intended to be essentially a review nature and papers will be printed and circulated beforehand. The leadership system will be adopted so as to provide more time for discussion.

Overseas Visits

Mr. G. B. Jones, of the Division of Biochemistry and General Nutrition, left last week for the United States. He will spend about four months at the Kearney Foundation for Soil Science at Berkeley, California. He will also visit a number of other American and British laboratories before returning home.

Dr. A. J. Nicholson, Chief of the Division of Entomology, also left for America last week. He will present a paper at the Darwin Centennial Celebration to be held by the University of Chicago this month. Dr. Nicholson will stop over for two days at Honolulu on his way.

Higher Education in N.S.W.

Mr. N. A. Esserman, Director of the National Standards Laboratory, has been asked by the N.S.W. Minister for Education to join a committee to inquire into several aspects of higher education in New South Wales.

The committee will report to the government on:

- The adequacy of existing provisions for higher education by the universities and other tertiary institutions.
- The extension and co-ordination of provisions for higher education.

- Other matters relating to tertiary education considered important by the committee.
- Means of securing for the Government continuing advice on the proper development of higher education.

The four other members of the committee will be Dr. R. B. Madgwick (Vice-Chancellor, University of New England), Professor R. H. Myers (Dean of Technology, University of



Mr. N. A. ESSERMAN

(N.S.W.), Mr. P. G. Price (Deputy Director-General of Education) and Emeritus Professor C. R. McRae (Deputy Vice Chancellor, University of Sydney), who will be the chairman.

STUDENTSHIPS

ALL C.S.I.R.O. officers are eligible to apply for the Organization's overseas post-graduate studentships which will be awarded at the end of the year.

The Studentships are established primarily to give overseas post-Doctoral experience to scientists who are already holding a Ph.D. degree, or who will obtain that degree in the year of award.

Overseas Studentships will usually be for one year only. In exceptional cases where Ph.D. training is not adequately provided at Australian universities, the Organization will consider the award of Studentships of two years' duration.

Officers who apply for Studentships, and who are successful in their applications, will be granted leave without pay to accept the award. The Organization continues to pay superannuation contributions of Studentship winners.

Studentships provide for a student in the United Kingdom or in Europe £750 sterling per annum, and for a student in the U.S.A., \$2,474 per annum.

In addition, married students who take their wives and children receive additional allowances.

For further details see Head Office Circular 59/59.

THIS MONTH

Advisory Council meets in Melbourne on 10th and 11th November.

Executive meets in Melbourne 12th November.

Food science conference in Sydney on 4th-6th November.

Vegetable conference at Warburton on 9th-14th November.

Wheat Industry Research Council meets in Adelaide on 19th-21st November.

Community Chest

MR. GORDON A. HALL, president of the Geelong Community Chest, commended the staff of the Division of Textile Industry last month.

Every member of the staff had made a contribution, and a sum total of £134/1/6 had been raised.

Mr. Hall described the gift as "A fine lead to the community by those who lead in the field of research".

Any Questions

C.S.I.R.O. STAFF provided the audience and the questions for the telecast feature "Any Questions" from ABV2 in Melbourne on 23rd October, 1959.

Members of the panel were Dr. Martha Anderson, Professor Zelman Cowen, Mr. Eric Westbrook, and Mr. John Hetherington.

About 70 people attended, from Head Office, the Divisions of Building Research, Tribophysics, Animal Health, Forest Products and Meteorological Physics and the Engineering, Ore-dressing and Fodder Conservation Sections.

Among the questioners were Mr. R. W. Viney, Mrs. M. Green, and Miss J. Conochie (Head Office), Mr. R. C. McTaggart and Miss L. A. McGrath (Building Research), Mr. M. G. Richards (Meteorological Physics) and Mr. P. Sowden (Engineering).

Soil Scientist Wins Medal

THE ROYAL SOCIETY of South Australia has awarded its 1959 Vercro medal for outstanding scientific work to Dr. C. G. Stephens, head of the Soil Survey and Pedology Section of the Division of Soils.

Presenting the medal, the President (Mr. T. R. N. Lothian) said that the practical application of Dr. Stephens' work had an important bearing on the relationship of soil to land uses and development and soil fertility problems.

Dr. Stephens has made a number of overseas trips on behalf of C.S.I.R.O. since the war.

To advise on land settlement and development in Brunei (North Borneo) he visited the area in 1956 and his report submitted to the British authorities has been most useful in furthering agricultural

development of this region.

Dr. Stephens has been a Fellow of the Society since 1938, and was its President during the year 1955-56.



Dr. C. G. STEPHENS

Printed by C.S.I.R.O., Melbourne

C O R E S E A R C H

FOR CIRCULATION AMONG MEMBERS OF C.S.I.R.O. STAFF — NUMBER 9, MELBOURNE, DECEMBER 1959

THREE ANIMAL INDUSTRY DIVISIONS

Mr. D. A. GILL, Chief of the Division of Animal Health and Production, retired last week after a lifetime of service to the animal industry.

A GRADUATE of the Royal College of Veterinary Surgeons, London, he joined C.S.I.R.O. in 1937, succeeding Sir Ian Clunies Ross as Officer-in-Charge of the McMaster Animal Health Laboratory.

He took a leading part in the practical development of methods for the control of blow-fly strike in sheep.

He has been influential in improving facilities for research for the sheep industry and was closely associated with the establishment of the C.S.I.R.O. laboratories at Prospect and Armidale, New South Wales, and Yeerongpilly, Queensland.

For some years Mr. Gill lectured in veterinary bacteriology at the University of Sydney.

During the war, he was seconded for a time as Pastoral Adviser to the Department of War Organization of Industry.

Instead of appointing a successor to Mr. Gill, the Executive has decided to split the large division (which has an annual budget of £850,000) into three divisions, called the Division of Animal Genetics, the Division of Animal Health, and the Division of Animal Physiology.

The new Division of Animal Genetics will include the present Animal Genetics Section at Sydney, N.S.W.; the National Sheep Breeding Station at "Girruith Plains", Cunnamulla, Queensland; the National Cattle Breeding Station, "Belmont", Rockhampton, Queensland; the Poultry Research Centre at Werribee, Victoria; the F. D. McMaster Field Station at Badgery's Creek, N.S.W.; and the Sheep Breeding Section at the McMaster Laboratory in Sydney, N.S.W.

The Chief of the Division will be Dr. J. M. Rendel, of Sydney.

Dr. Rendel came to Australia in 1951 from the Institute of Animal Genetics in Edinburgh.

As Assistant Chief of the Division of Animal Health and Production he has taken part in much of the Organization's animal breeding work, and has been particularly interested in cattle.

In 1958 he made a report on the cattle industry in Papua and New Guinea for the Department of Territories.

The new Division of Animal Health will comprise the Animal Health Research Laboratory, Parkville, Victoria; the McMaster Animal Health Laboratory, Glebe, N.S.W.; and the Veterinary Parasitology Laboratory, Yeerongpilly, Queensland, together with their associated Field Stations.

Dr. T. S. Gregory, of Melbourne, has been appointed Chief of this Division, with Dr. D. F. Stewart, of Sydney, as Associate Chief and Dr. A. W. Turner as Assistant Chief.



Mr. D. A. GILL



Dr. J. M. RENDEL
Chief, Division of
Animal Genetics.

Dr. Gregory has been on the Organization's staff since 1926, except for a period of eight years as lecturer in bacteriology at the University of Melbourne, and for war service.

He served in the A.I.F. (Medical Corps) during the war, reaching the rank of major.

The new Division of Animal Physiology will consist of the Sheep Biology Laboratory at Prospect, N.S.W., and the Regional Pastoral Laboratory at Armidale, N.S.W., with its associated "Chiswick" Field Station.

The Division will be led by Dr. I. W. McDonald, of Sydney.

Dr. McDonald gained a Hawkesbury Diploma in agriculture before undertaking his course in veterinary science at the University of Sydney.

Before being appointed Officer-in-Charge of the C.S.I.R.O. Sheep Biology Laboratory at Prospect in 1955, he had spent several years at the Institute of Animal Physiology in Cambridge, England.



Dr. T. S. GREGORY
Chief, Division of
Animal Health.



Dr. I. W. McDONALD
Chief, Division of
Animal Physiology.

Spring in a Canberra Orchard



OVER 400 high school children swarmed over a doomed apple orchard in Canberra recently.

They picked a ton of material from which a hormone causing active cell division could be extracted.

Each child had a paper bag in which to gather the tiny apple fruitlets just after petal fall.

The picking bee was organized by Dr. N. P. Kefford, of the Division of Plant Industry, and many C.S.I.R.O. people in Canberra gave up their week-end to help with the picking.

The apple orchard will be bulldozed out shortly to make way for a new high school, providing a unique opportunity to collect a large quantity of actively dividing tissue.

Cecily Howden and Heather Boyle, Technical Assistants, Division of Plant Industry, were among the pickers.

Children were paid at the rate of 4d. per ounce, and a total of £250 was paid out in the two days.

The Plant Industry research team working on this project comprises Drs. P. L. Goldacre, W. Bottomley, P. R. Whitfield, and N. P. Kefford.

The first stages of chemical extraction were carried out in Canberra. Six hundred gallons of crude extract were then trucked to the Chemical Research Laboratories, Melbourne, for concentration.

The results of this research will be of interest in all situations where cell division occurs, whether normal or pathological.

F.B.I. Scholarships

THE Federation of British Industries, London, in co-operation with the Government of the Commonwealth of Australia, is offering scholarships providing practical training in the United Kingdom for selected Australian engineering graduates and diplomats.

These scholarships are intended for young engineers who are likely to achieve positions of responsibility in the future.

General or specialized training with leading engineering firms in the United Kingdom will be arranged for successful applicants, and opportunities will be available for observing methods currently employed in British industry and, as far as possible, of working in the sphere in which the scholar is particularly interested.

Resignation of Mr. F. Skaller

Mr. FRED SKALLER, Officer-in-Charge of the Poultry Research Centre of the Division of Animal Genetics at Werribee, Victoria, has resigned from C.S.I.R.O.

He will take up a position as the first General Manager and Geneticist of a recently formed company called Scientific Poultry Breeders (A/asia) Pty. Ltd.

Mr. Skaller graduated from the University of Berlin in 1926 and has been closely associated with the poultry industry throughout his professional life.

He left Germany in 1934 and, after a stay in Italy, he took a position as Head Poultryman in a commercial poultry establishment in the United Kingdom.

He came out to Australia during the war and served in the Australian Military Forces. After the war, he graduated in commerce at Melbourne University.

He joined C.S.I.R.O. in 1946, and has been involved ever since in the establishment and development of the Organization's poultry research programme.

In 1951, he took an F.A.O. assignment, and spent a year in Pakistan as an adviser on poultry industry matters.

1960 FULBRIGHT SCHOLARS NAMED

THE United States Educational Foundation in Australia has announced that three American scholars have been awarded Fulbright grants to enable them to undertake research in C.S.I.R.O. laboratories.

Professor Marvin Carmack, of Indiana University, will arrive in July or August to spend nine months at the Chemical Research Laboratories. He will work with Dr. J. R. Price, of the Organic Chemistry Section.

Professor Arthur W. Galston, Professor of Plant Physiology at Yale University, is also expected in July. He will work with Dr. P. L. Goldacre in the Division of Plant Industry.

Also coming to the Division of Plant Industry is Dr. Lawrence Bogorad, of the University of Chicago. He will arrive in June to spend six months with Dr. J. N. Falk, working in the field of plant biochemistry.

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Sir Lawrence Bragg to Visit Australia

Sir Lawrence Bragg, Director of the Royal Institution, London, will visit Australia in October and November of next year. He has been asked by the Royal Society to be Rutherford Lecturer for 1960 in New Zealand.

He will visit Brisbane, Sydney, Canberra, Melbourne, Adelaide, and Hobart.

Sir Lawrence Bragg, who was born and educated in Adelaide, won world renown for his pioneer work in X-ray crystallography at an early age. He was only 25 when he shared the 1915 Nobel Prize for physics with his father.

He served in the first world war, and was decorated with the M.C. and O.B.E. After the war, in 1919, he became Professor of Physics at Manchester, in succession to Lord Rutherford.

He left Manchester in 1937 to become Director of the National Physical Laboratory, but the following year went to Cambridge as Cavendish Professor, again in succession to Lord Rutherford.

On his retirement from Cambridge in 1953, Sir Lawrence became Director of the Royal Institution in London. In this capacity he has organized (and given) a large number of lectures to school children—lectures which make science simple, but at the same time intelligent and exciting.

His interest in research is as keen as ever, and he is deeply involved in the X-ray study of proteins in the Davy-Faraday laboratory.

Scientists in several disciplines will look forward eagerly to his Australian tour.

MEMBERS DISCUSS C.S.I.R.O.

ON 28th and 29th October, the House of Representatives debated the Science and Industry Research Act, which increases the membership of the Executive.

The Bill was supported by the Opposition, and compliments were paid to the Organization on both sides of the Chamber.

These excerpts from "Hansard" report some of the points made by members.

Mr. Pollard (Labour)—"The Opposition takes no exception to the proposed change in the executive of the Organization."

"When we consider the vast range of research operations associated with the work of the C.S.I.R.O. the obvious results of the work of the organization in industrial, agricultural and pastoral research, and the wonderful benefits that industry has derived from the work of the organization, we can only say that this, of all govern-

mental institutions, deserves the greatest commendation.

"As far as I can recollect, there has been practically no criticism of the managerial authority of the organization during the lengthy period that it has been operating."

"This is most gratifying and altogether admirable when we consider that the organization, in the course of its work, must of necessity proceed in very close co-operation with the various State Departments of agriculture and other bodies interested in industrial and scientific research."

"It is my very humble opinion, taking into account the net effect of the work of these research workers and scientists, with their very good qualifications, that, by comparison with others in the community—with special reference to their scale of income—members of this organization are getting a very raw deal indeed."

Mr. Joske (Liberal)—"The Constitutional Review Committee has recommended to the Parliament that, inasmuch as the Commonwealth has no specific power to carry on scientific and industrial research, this Parliament should be vested with power to make laws for the carrying on and promotion of scientific and industrial research, because the C.S.I.R.O. is so important and is doing such wonderful work."

"This matter is far too important to be left up in the air as it is left up in the air at present."

"Among constitutional lawyers, there is a serious doubt as to whether this important and valuable body is legal or illegal, constitutional or unconstitutional."

Mr. Haylen (Labour)—"We express our deep regret at the passing of Sir Ian Clunies Ross, who was a great leader of scientific research in Australia."

"He did incalculable good for the land he loved so well."

"We on this side of the House are proud to add our voice to the general chorus of approval of this good and true Australian, who did a mighty job, and did it quietly and efficiently in the best traditions of our land."

Mr. Fraser (Liberal)—"In the future there must be an equal emphasis placed on extension work as there is on research work if we are to use our knowledge properly and if the future health of our animal in-

dustries is not to be jeopardized."

"In the past the C.S.I.R.O. has done good work but that work has been restricted by the charter of the Organization."

"A general examination is needed of the relationship between the C.S.I.R.O. and the State Departments of Agriculture."

"In particular an examination is needed to see whether the results of present research are getting through to the farmers. I feel there is a delay somewhere along the line."

Mr. Bryant (Labour)—"About eighteen Acts of this Parliament confer upon some authority the function of carrying out research of some kind."

"At least seven Ministers are responsible for research in this country."

"Not only have we six State departments of agriculture, but we have at least seven Ministers in this Government who are responsible for research."

"That state of affairs is denying us a coherent and flexible research policy."

"Research is everybody's business and therefore nobody's business."

"We should examine our administrative structure and take steps to bring all the research activities of the Commonwealth under one head."

Mr. Kearney (Labour)—"Smog is killing people and, for that reason, we must try to eliminate it."

"Industry as a whole, and State authorities, are making contributions towards the elimination of smog, but those contributions are to date sluggish in their effect."

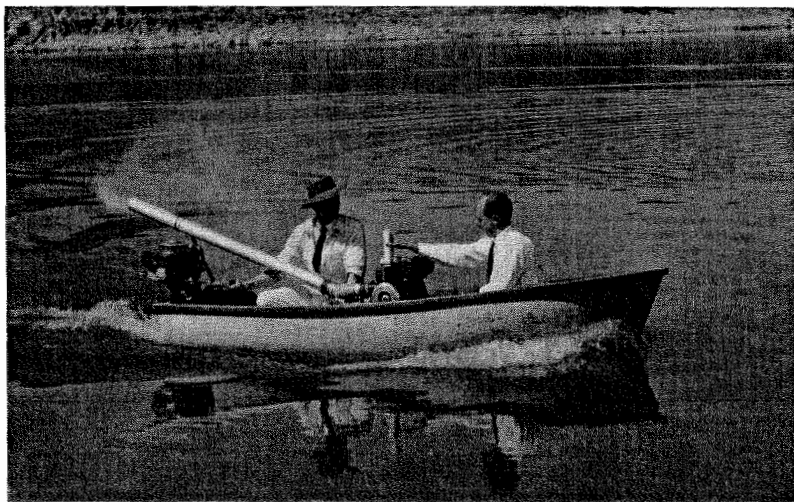
"If the minister in charge of the C.S.I.R.O. were to analyze this matter closely, I am sure that he would come to the conclusion that the organization should direct some of its efforts towards this field."

Film Shown at Cannes Festival

A HANDSOME parchment certificate has been received from France by Mr. S. T. Evans, Officer-in-Charge of the Film Unit at Head Office.

The document certifies that the film, "The Seals of Macquarie Island," was selected for screening in the television section of the 1959 Cannes Film Festival.

THE "NEW" MANSFIELD PROCESS



THE Broken Hill Water Board is now employing the "new" Mansfield process on its reservoir at Umberumberka.

Cetyl alcohol is dusted on to the surface as a fine powder, instead of being dispersed from rafts.

The Board's resident engineer, Mr. C. S. Robertson, has invented an ingenious machine

Messrs. Robertson and Vines are pictured above testing the new method at Umberumberka reservoir.

to powder and distribute cetyl alcohol in the manner recommended by Messrs. Mansfield and Vines of the Chemical Research Laboratories.

POSTING TO A.S.I.O. LONDON

MR. FRANK WILSON, of the Division of Entomology, has been appointed Scientific Liaison Officer in the Australian Scientific Liaison Office, London, for a period of three years.

He will succeed Mr. R. C. Richardson, Technical Secretary of the Division of Electrotechnology, whose term of secondment has expired.

Mr. Wilson's special interest is in the biological control of weeds. He is an Englishman who joined the Organization in 1934 in England.

He was posted to the south of France, and remained there until June, 1940. He escaped from France on the last ship to leave Bordeaux.

He reached Australia at the end of 1940, after serving on the Organization's staff for 6 years.

SYME PRIZE

DR. W. N. CHRISTIANSEN, of the Division of Radiophysics, has shared the 1959 David Syme Research Prize with Dr. R. D. Brown, Professor-elect of Chemistry at Monash University.

Dr. Christiansen, who was elected to the Australian Academy of Science this year, is a distinguished radio astronomer. He is responsible for the invention of an ingenious radio telescope known as the "Christcross".

LONDON MEAT POST

Mr. D. B. MUIRHEAD, of the Regional Pastoral Laboratory, Armidale, has been selected for the position of London representative by the Australian Meat Board.

Mr. Muirhead is at present in North America on a special mission for the Board, watching the interests of the Australian meat industry, particularly in the United States.

He was seconded for this purpose from the Division of Animal Health and Production.

It is expected that Mr. Muirhead will take over the London appointment about the middle of next year.

Mr. Muirhead has a long and distinguished record in the live stock and meat industry, which has given him a broad practical understanding of its problems.

He is well known to both practical live stock producers and the meat trade as an experienced judge of both live animals and carcasses, and has also had extensive research and investigation experience in these industries.

Instrument Display

THE N.S.W. DIVISION of the Australian Branch of the Institute of Physics proposes to hold an Exhibition of Scientific Instruments and Apparatus in the new Chemistry Building, University of Sydney, during August, 1960.

Members of C.S.I.R.O. staff who have developed new instruments or novel uses for existing instruments, and who would like to exhibit them should contact The Secretary, Institute of Physics Exhibition Committee, National Standards Laboratory, University Grounds, Chippendale, N.S.W.

Program Change

OWING to the unusually prolonged session of Parliament, the A.B.C. have had to postpone the lectures to be given by Dr. D. F. Martyn, entitled "Society and the Space Age".

These lectures were reported in the last issue of "Coresearch" as scheduled for November.

They will now be given at 8 p.m. on Tuesday, December 1st and on subsequent Tuesdays until December 22nd.

A House on the Gold Coast

RALPH RABBIDGE, of the Division of Textile Physics, recently won the "Go-Words" contest organized by the magazine "Woman's Day".

His prizes included a new house on the Gold Coast (valued at £5,300), a year's supply of cigarettes, and other prizes valued at over £300.

Contest judges said that

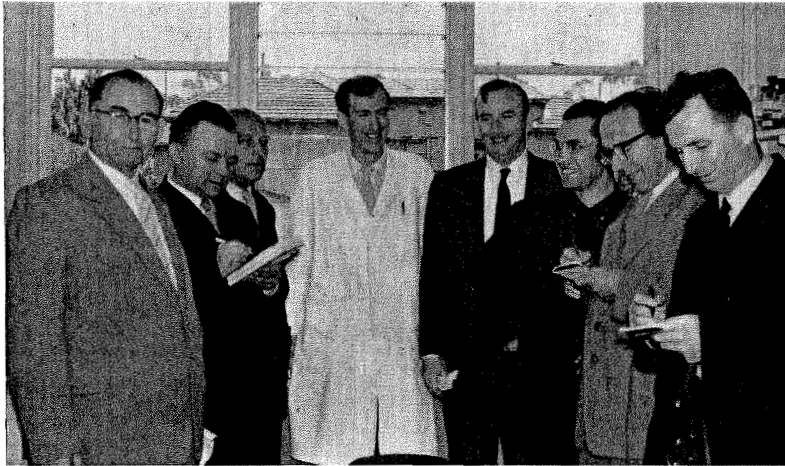
Ralph's continual high scoring was "fantastic". He scored 14,379 points, and in the individual rounds of the contest his score was never more than three points below the maximum.

Ralph Rabbidge with his wife and two daughters.

"Woman's Day" photo.



RUSSIANS AT WOOL LABORATORY



RUSSIA wants to buy "big quantities of Australian wool", a Soviet scientist said in Melbourne recently.

He said a trade representative attached to the recently reopened Soviet Embassy in Canberra was leading negotiations for the purchase of the wool.

"By 1970 we will produce more wool than Australia does now," he said.

"We have 140 million sheep and the number is growing."

The scientist was burly 54-year-old Mr. P. A. Yessaulov, head of a party of five Russian agricultural scientists on a three-weeks tour of Australia arranged by the Australia-Soviet Friendship Society.

They visited university and C.S.I.R.O. research centres dealing with wool, and they had talks with Australian Wool Bureau members and officials.

Their tour follows a trip to Russia by five Australian farmers in July.

At the Division of Protein Chemistry in Melbourne. From left: Messrs. V. N. Kamner, P. L. Karpov, Prof. A. P. Zotov, Mr. B. McQuade, Dr. F. G. Lennox, Mr. I. P. Stalsky, Mr. P. A. Yessaulov (delegation leader) and Mr. I. Y. Chavrenko.

Successful Year

The C.S.I.R.O. Co-operative Credit Society (Victoria) has just completed another successful year.

The Society has a membership of 312 from all States and during the year 92 loans, amounting to £16,582, were made to members.

Since its inception in September, 1957, the Society has assisted members with 195 loans, amounting to £31,500.

The Directors, before the end of the financial year, and in keeping with the spirit of the co-operative movement, decided to distribute the profits to the borrowers by means of a rebate of interest on loans at the rate of 2/- in the £. If the present trend continues the Directors hope in the future to be able to increase the return to depositors, whilst at the same time keeping interest rate on loans to a minimum.

As there is a continual need for loan money, new depositors will be most welcome.

FOOD QUALITY SYMPOSIA

A CONFERENCE on "Food Quality", organized by the Division of Food Preservation and Transport, was held in the New Chemistry School, University of Sydney, from 4th-6th November.

Dr. F. W. G. White, in opening the conference, spoke of the vital importance of food science for the political and economic welfare of the nations of the world. Relaxation in international tensions depended largely on improvements in standards of living in many under-developed countries, he said.

The Conference took the form of three symposia. The first of these, entitled "Colour Stability in Foods" was under the Chairmanship of Dr. J. R. Vickery, Chief of the Division of Food Preservation.

Amongst the contributors to this symposium were Drs. T. M. Reynolds, E. F. L. J. Anet, and D. L. Ingles and Mr. D. McBean, all of Homebush.

The second symposium was entitled "Flavour Stability in Foods", and contributors from

the Division included Mr. A. Howard (Brisbane), Dr. J. F. Turner, with Dr. R. N. Robertson (Sydney) and Messrs. L. J. Lynch, R. S. Mitchell and D. J. Casimir (Homebush). Mr. D. A. Fors, of the Dairy Research Section, also gave a paper at this session.

Three Homebush people, Dr. W. J. Scott, Dr. J. H. B. Christian, and Miss Judith Waltho, gave papers to the third symposium, entitled "Microbial Stability in Foods".

Delegates to the Conference visited the Sydney and Homebush laboratories of the Division of Food Preservation, and the Department of Food Technology at the University of New South Wales.

Vegetable Conference

A SUCCESSFUL Vegetable Research Conference attended by nearly 50 delegates was held at the Mayer Chalet, Warburton, Victoria, from 9th-14th November.

Dr. R. N. Robertson, representing C.S.I.R.O. (the conven-

ing body), welcomed Mr. F. M. Read, Acting Director of Agriculture in Victoria.

The conference was then officially opened by Mr. Read.

The delegates were from all six State Departments of Agriculture, Universities, Commonwealth Government departments, C.S.I.R.O., and industry.

Mr. P. F. Butler (Head Office) and Mr. N. L. Tyshing (A.R.L.S.) served on the organizing committee for the conference.

Three members of the Division of Food Preservation and Transport gave papers. They were Messrs. E. G. Hall (Effects of Methods of Marketing on Production Research), J. Shipton (Effects of Processing Requirements on Production Research) and P. W. Board (Assessment of Tomato Varieties for Processing).

Mr. E. R. Hoare (Irrigation Research Station, Griffith) gave a paper on "Crop Shelter" and Mr. G. C. Coote (Mathematical Statistics) discussed statistical aspects of field trials and quality assessment.

Death of Mr. E. W. Hicks

MR. E. W. HICKS, Senior Principal Research Officer and leader of the physics section in the Division of Food Preservation and Transport, died on 2nd November after a short illness. He was 52 years of age.

A GRADUATE in Arts and Science of the University of Melbourne, he spent two years in teaching before joining the research staff of C.S.I.R. in 1929.

Hicks' early work was concerned with the transport and ripening of bananas.

His work was so successful that the techniques he devised were rapidly adopted by industry and are still in use today.

Subsequently, Hicks spent nearly two years in post-graduate research training at the Low Temperature Research Station, Cambridge.

It was here that he developed the interest in the application of physics and mathematics to the problems of food science, which he was to use so elegantly and successfully during the next 20 years.

Soon after his return to Australia, he joined the newly-established central headquarters of the Division of Food Preservation and Transport as officer-in-charge of the physics section.

Hicks' mastery of the mathematics of heat transfer and of diffusion was complete.

He used this knowledge in countless ways to enquire into the agreement between observation and theory.

His analyses of the transfer of heat and moisture in the cooling, freezing and storage of meat led him to a clear understanding of the optimum conditions for the treatment of meat in the meatworks and in its shipboard transport.

He was the first research worker to make a thorough scientific study of the transport of food in ventilated and refrigerated rail vehicles, and the results of his work have been applied in the design of new vehicles and in the improve-

ment of the performance of older types.

The Organization has lost a distinguished officer whose work has received recognition in many countries.

The Division of Food Preservation and Transport has lost a leader whose influence extended far beyond his own group.

He gave a great deal of his time, often to the detriment of his own work, to helping his colleagues.

At the time of his death, Hicks was President of the Australian Institute of Refrigeration (N.S.W. Division) and a Vice-President of Commission II of the International Institute of Refrigeration.

PUBLIC RELATIONS

THE DIVISION of Forest Products is justifiably proud of the implications behind the following brief contact note recorded by an officer of its Utilization Section:

"Nature of Contact: Chain saw not cutting straight."

Went to Ringwood in response to 'phone call requesting assistance.

Inspected chipper chain on electric "Blue Streak" used in log yard and expounded theories on poor chain performance.

Men not vastly impressed, requested practical sharpening demonstration.

Began sharpening chain. Knock-off whistle went, men stayed on.

Thirty minutes later chain sharpened and ready for test.

Crossed fingers.

Chain cut straight and even. Everyone now suitably impressed."

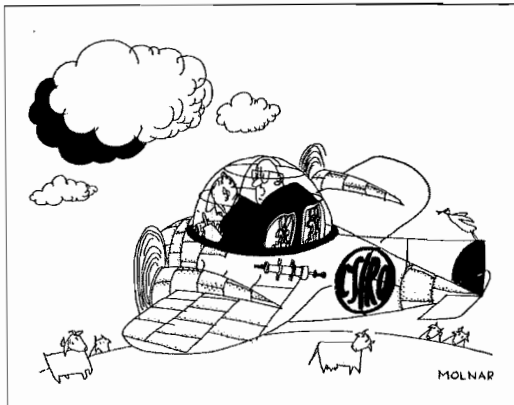
South African Agronomist

PROFESSOR J. T. R. Sim, Professor of Agronomy and Pastures at the University of Stellenbosch, South Africa, visited Australia last month.

Professor Sim is responsible for the control and co-ordination of all agronomy, pasture and vegetable growing research in the winter rainfall region of the Cape Province.

He visited a number of C.S.I.R.O. laboratories, including the Engineering Section, Fodder Conservation Section, Dairy Research Section, and Division of Plant Industry.

Mr. W. L. Greenhill, Officer-in-Charge of the Fodder Conservation Section, discusses hay quality with Professor Sim.



"Faster! The damn thing will rain before we make it."

With grateful acknowledgment to "The Sydney Morning Herald".

Barracouta Boat Launched

"BARRACOUTA FISHING in Bass Strait is an uncertain business," Dr. F. W. G. White said recently. "The numbers taken by fishermen have varied very much in recent seasons."

"IT IS HOPED that this new vessel will enable us to learn a lot more about the barracouta, its migratory habits, its spawning habits, and the food it eats."

"A more complete understanding of the barracouta's movements should be of great assistance to fishermen," he added.

The Chairman was speaking at South Wharf, Melbourne, where a new C.S.I.R.O. fisheries research vessel lay at moorings.

After paying compliments to the architect and builder of the ship, he thanked representatives of the Victorian Fisheries and Game Department and the Commonwealth Department of Primary Industry for the help they had given to the Division of Fisheries and Oceanography.

Dr. White then called on Mrs. White to name the ship in the traditional manner.

"I name this ship *Thyrstites*," said Mrs. White, "and may God bless all who sail in her."

She pulled the string, and the champagne bottle dashed against the ship's bows, amid general applause.

Among those present were the ship's master, Capt. Otto Schmidt, who presented Mrs. White with a bouquet, and Bill Parkin, the professional barracouta fisherman appointed to sail in "*Thyrstites*."

Also present were Dr. J. M. Thomson, Acting Chief, and Mr. Rex Cowper, of the Division of Fisheries and Oceanography.

The new all-steel, 42-foot, diesel craft was financed from the Fisheries Development Trust Fund, and was built by Acro Steel Works, Melbourne.

She will make eight cruises a year in Bass Strait, each of one month's duration.

With the new vessel, research workers in the C.S.I.R.O. Division of Fisheries and Oceanography hope to find out—

- What causes large fluctuations in the seasonal barracouta catch.
- What food is preferred by barracouta and what water temperature.
- Where barracouta may be found when they are scarce in Bass Strait
- Where the barracouta spawn.

Attempts will be made to trace the seasonal migration of the fish by tagging them.

The vessel is equipped with a special echo-sounding device and attempts will be made to locate and identify barracouta with it.

Mrs. F. W. G. White pulls a cord to release the champagne bottle, while Mr. Rex Cowper looks on.



Dairy Technology Medal

THE Australian Society of Dairy Technology has awarded its Silver Medal for 1959 to Mr. E. Munch-Petersen, an officer of the Division of Animal Health and Production, stationed at the Western Australian Regional Laboratory.



Mr. E. MUNCH-PETERSEN

The award was based on his paper, "Antibiotics—Friend or Foe," in the Australian Journal of Dairy Technology.

Mr. Munch-Petersen's paper reviews findings on the use of antibiotics to control mastitis in dairy cattle.

It is shown that, while infections due to streptococci are less numerous, the incidence of

mastitis due to other organisms, particularly the staphylococci, has increased.

The more widespread occurrence of residual antibiotics in milk was shown to be creating possible hazards to human health as well as leading to defects in cheese-making and milk quality.

LECTURESHIP AT CANBERRA

DR. W. D. CROW has resigned from the Organic Chemistry Section, Chemical Research Laboratories, to take up a senior lectureship in organic chemistry at Canberra University College.

He joined C.S.I.R.O. immediately after graduation in 1946. In 1950-51 he was awarded a senior studentship, and spent two years at Sheffield, working for his Ph.D. degree.

At Fishermen's Bend he has worked with Dr. J. R. Price's group, studying the alkaloid constituents of Australian plant materials. In particular, he took a leading part in the isolation of the important drug reserpine.

Printed by C.S.I.R.O., Melbourne

Forty Years Ago

(From the official Journal of the Institute of Science and Industry, December, 1919).

"A wide diversity of opinion still exists in Australia in regard to the importance of the tractor for farming operations."

"Tractors are gradually growing in favour, but they are used on a very small scale in comparison with horse teams."

"No general purpose tractor, however, has yet been invented."

"Nor is it considered likely that such a tractor will ever be perfected."



NEW APPOINTEES

Miss Dorothy Conolly has joined the staff of the Division of Animal Genetics. For the last seven years she has been abroad, working for most of the time in Edinburgh. She spent most of 1958 working in a hospital at Toronto, Canada.

Dr. D. K. Davies arrived from the United Kingdom last month to take up a Research Fellowship in the Division of Physics. He will work with the hygrometry - viscometry group under Dr. R. G. Wylie. Dr. Davies, who recently graduated Ph.D. from the University of Wales, was married shortly before leaving for Australia.

Mr. R. J. Goodchild, an Adelaide graduate, has joined the staff of the Division of Chemical Physics, where he will work with the mass spectrometry group. He has previously been on the staff of the Bureau of Mineral Resources.

Mr. J. F. Hayes has been appointed to the staff of the Dairy Research Section. From 1947 until 1949 he was on the staff of the Division of Forest Products. Since 1950 he has been with the Department of Customs and Excise.

Mr. H. W. Kinnersley, an electronic engineer, has been appointed to the staff of the Division of Physics. He has been on the staff of the Weapons Research Establishment at

Woomera since 1951. During 1954-55, he undertook training at the Royal Aircraft Establishment at Farnborough in England.

Dr. E. R. Segnit, who was on the staff of the Chemical Research Laboratories from 1947-1953, has been appointed to a position of Research Ceramist in the Division of Building Research. Since leaving C.S.I.R.O. he has held teaching and research positions at three universities—Adelaide, California and Princeton.

Captain O. A. Schmidt, formerly of the German Navy, and now a naturalized Australian, has been appointed to the staff of the Division of Fisheries and Oceanography.

He will be skipper and engineer of the new P.R.V. "*Thyrstites*," which will be used in a study of the Bass Strait barracouta fishery.

Overseas Visits

Dr. A. J. NICHOLSON, Chief of the Division of Entomology, left Australia last month on a short visit to the United States.

He will participate in the Darwin Centennial Celebration being organized by the University of Chicago in honour of the 100th anniversary of the publication of Darwin's "*Origin of Species*."

Dr. O. H. Frankel, Chief of the Division of Plant Industry, left by air last month for Rome. He will attend the 10th Conference of the Food and Agriculture Organization as a member of the Australian delegation.

Mr. J. A. Corbett, of the Physical Metallurgy Section, left last week with his family to spend nine months in the United Kingdom.

He will undertake developmental work on instrumental methods of analysis with Unicam Instruments Ltd., at Cambridge.

Mr. M. J. Puttock, of the Division of Metrology, left last month on a six-months visit to North America, England and Europe. He will visit laboratories corresponding to the National Standards Laboratory in the United States, the United Kingdom, France and Switzerland.

Mr. N. L. Brown, of the Division of Fisheries and Oceanography, left a month ago for the Woods Hole Oceanographic Institution in America. He will be there for six months or more, studying instruments used for the measurement of salinity in sea water.

Chess Champion

THE CITY of Fremantle Open Chess Championship, played on 31st October, was won by Dr. Keith Sheard, of the Division of Fisheries and Oceanography.

Dr. Sheard, who is a member of the Senate of the University of Western Australia, beat the reigning State Champion, Mr. V. Stannard, by one point.

F.A.O. ASSIGNMENT

MR. H. J. LEE, of the Division of Biochemistry and General Nutrition, left this month for South America, on an F.A.O. assignment.

Mr. Lee has been asked to investigate a disease of grazing cattle, depastured on specific areas in Brazil.

It is suspected that the disease is due to shortage of a minor element in the fodder.

Mr. Lee will bring to bear on the problem the Division's very considerable experience of trace element deficiency problems.

He will return to Australia in two months' time.

Ball at the Hotel Canberra

INSTEAD of holding a cabaret dance, as in the past few years, the Social Committee at Can-

berra decided that a more representative attendance would be obtained from all the A.C.T. groups if a Ball could be arranged.

Publicity posters were displayed on all notice boards and, for good measure, a circular was sent round to the wives of all research staff to prevent any absentmindedness about the function.

As a result, the Committee had to hide from a number of irate husbands.

The Ball was held on October 30 at the Hotel Canberra, with an attendance of 185.

The music was provided by the jazz band from the Royal Military College.

A group from the Wildlife Survey Section, with their partners, at the Ball.